The

Uses of British Wild Plants

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Green Man Publishing

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Contents

I put the Latin names first simply because they are easier to list that way (there are so many common names). If you are interested in plants you will probably want to learn these names anyway, so you may as well start now.

Borago officinalis **/ Borage**

Brassica nigra **/ Black Mustard**

Brassica napus **/ Rape**

Brassica oleracea **/ Wild Cabbage**

Bunias orientalis **/ Turkish Rocket**

Bunium bulbocastanum **/ Great Pignut**

Butomus umbellatus **/ Flowering Rush**

Cakile maritime **/ Sea Rocket**

Calamintha sylvatica **/ Common Calamint**

Calla palustris **/ Wild Calla**

Calluna vulgaris **/ Heather**

Caltha palustris **/ Marsh Marigold**

Calvatia gigantea **/ Giant Puffball**

Calystegia sepium **/ Bindweed**

Campanula rapunculoides **/ Bellflower**

Campanula rapunculus **- Rampion**

Cannabis sativa **/ Indian Hemp**

Cantharellus cibarius **/ Chantarelle**

Capsella bursa pastoris **/ Shepherds Purse**

Cardamine pratensis **/ Ladys Smock**

Cardaria draba **/ Hoary Cress**

Carduus nutans **/ Musk Thistle**

Carex **species / Sedges**

Carlina vulgaris **/ Carline thistle**

Carpinus betulus **/ Hornbeam**

Carum carvii **/ Caraway**

Castanea sativa **/ Chestnut**

Centaurea cyanus **/ Cornflower**

Centranthus ruber **/ Red Valerian**

Cerastium semidecandrum **/ Little Mouse Ear**

Cetraria islandica **/ Iceland Moss**

Cham*aemelum nobile* / Common Chamomile

Chenopodium album **/ Lambs Quarters**

Chenopodium bonus henricus **/ Good King Henry**

Chondrus crispus **/ Irish Moss**

Chrysanthemum leucanthemum

/ Ox-Eye Daisy

Chrysoplenium oppositifolium **/ Golden Saxifrage**

Cichorium intybus **/ Chicory**

Cirsium arvense **/ Creeping Thistle**

Cladonia impexa **/ Reindeer Moss**

Clinopodium vulgare **/ Wild Basil**

Cochlearia officinalis **/ Scurvy Grass**

Coprinus comatus **/ Shaggy Ink Cap**

Coriandrum sativum **/ Coriander**

Conopodium majus **/ Pignut**

Cornus suecica **/ Dwarf Cornel**

Cornus mas **- Cornelian Cherry**

Corydalis bulbosa **/ Fumewort**

Corylus avellana / Hazelnut

Crambe maritima **/ Seakale**

Crataegus monogyna **/ Hawthorn**

Crithmum maritimum **/ Rock Samphire**

Cymbalaria muralis **/ Ivy Leaved Toadflax**

Cynoglossum officinale **/ Hounds Tongue**

Cyperus longus **/ Sweet Galingale**

Cytisus scoparius **/ Broom**

Daucus carota **/ Queen Anne's Lace**

Descurainia sophia **/ Tansy Mustard**

Diplotaxis muralis **/ Wall Mustard**

Dryas octopetala **/ Mountain Avens**

Echinophorum spinosa **/ Prickly Samphire**

Elymus arenarius **/ Lyme Grass**

Empetrum nigrum **/ Crowberry**

Enteromorpha species **/ Green Nori**

Epilobium angustifolium **/ Rosebay Willowherb**

Equisetum palustre, E. arvense **/ Horsetails**

Erucastrum gallicum **/ Hairy Rocket**

Eriophorum **species / Cotton Grasses**

Erodium cicutarium **/ Common Storksbill**

Eruca sativa **/ Rocket**

Eryngium maritimum **/ Sea Holly**

Euonymous europaeus **/ Spindle Tree**

Euphorbia lathyrus **/ Caper Spurge**

Fagopyrum tataricum **/ Tartary Buckwheat**

Fagopyrum esculentum **/ Buckwheat**

Fagus sylvestris **/ Beech**

Filipendula ulmaria **/ Meadowsweet**

Filipendula vulgaris **- Dropwort**

Foeniculum vulgare **/ Fennel**

Fragaria vesca **/ Wild Strawberry**

Frangula alnus **/ Alder Buckthorn**

Fraxinus excelsior **/ Ash**

Fucus vesiculosus **/ Bladderwrack**

Galeopsis tetrahit **/ Hemp Nettle**

Galinsoga species **/ Quickweed**

Galium aparine **/ Goosegrass**

Galium verum **- Lady's Bedstraw**

Galium odoratum **- Sweet Woodruff**

Gaultheria shallon **/ Salal Berry**

Gelidium species **/ Jelly Plants**

Genista tinctoria **/ Dyers Greenweed**

Geum rivale **/ Water Avens**

Geum urbanum / **Wood Avens**

Gigartina stellata **/ Irish Moss**

Glaux maritima **/ Sea Milkwort**

Glechoma hederacea **/ Ground Ivy**

Halimione portulacoides **/ Sea Purslane**

Heracleum sphondylium **/ Cow Parsnip**

Hieracium **species / Hawkweed**

Hippophae rhamnoides **/ Sea Buckthorn**

Hirschfeldia incana **/ Greek Mustard**

Honckenya peploides **/ Sea Sandwort**

Hordeum **species / Wild Barley**

Humulus lupulus **/ Hop**

Hydrocotyle vulgaris **/ Marsh Pennywort**

Hypericum perforatum **/ St Johns Wort**

Hypochoeris radicata **/ Cats Ear**

Ilex aquifolium **/ Holly**

Impatiens capensis **/ Jewelweed**

Inula helenium **/ Elecampane**

Inula crithmoides **/ Golden Samphire**

Juglans regia **/ Walnut**

Juniperus communis **/ Juniper**

Lactuca **species / Wild Lettuce**

Laminaria digitata **/ Sea Tangle**

Laminaria saccharina **- Sweet Wrack**

Lamiastrum galeobdolon **/ Yellow Archangel**

Lamium purpureum **/ Purple Dead Nettle**

Lamium amplexicaule **- Henbit**

***Lapsana communis* / Nipplewort**

***Larix decidua* / Larch**

***Lathyrus japonicus* / Sea Pea**

Lathyrus montanus - Bitter Vetch

***Ledum palustre* / Bog Rosemary**

***Lemna minor* / Duckweed**

***Leontodon hispidus* / Rough Hawkbit**

***Lepidium* species / Peppergrass**

***Lepidium latifolium* / Dittander**

***Lepiota procera* / Parasol Mushroom**

***Lepista nuda* / Wood Blewit**

***Ligusticum scoticum* / Scotch Lovage**

***Linum usitatissimum* / Common Flax**

***Lithospermum officinale* / Gromwell**

***Lobularia maritima* / Sweet Alyssum**

***Lunaria annua* / Honesty**

***Lycium barbarum* / Duke of Argylls Tea Plant**

***Mahonia aquifolium* / Oregon Grape**

***Malus sylvestris* ssp *mitis* / Wild Apple**

***Malus sylvestris* ssp *sylvestris* - Wild Crab Apple**

***Malva* species / Mallows**

***Marrubium vulgare* / Horehound**

***Matricaria chamomila* / German Chamomile**

***Medicago sativa* / Lucerne**

***Melilotus* species / Melilot**

***Melissa officinalis* / Lemon Balm**

***Mentha* species / Mints**

***Mentha pulegium* / Pennyroyal**

***Menyanthes trifoliate* / Bog Bean**

***Mertensia maritima* / Oyster Plant**

***Mesembryanthemum edule* / Hottentot Fig**

***Mespilus germanica* / Medlar**

***Meum athamanticum* / Spignel Meu**

***Mimulus guttatus* / Monkeyflower**

***Montia perfoliata* / Miners Lettuce**

***Morchella esculenta* / Morel**

***Morus nigra* / Mulberry**

***Mycelis muralis* / Wall Lettuce**

***Myrica gale* / Sweet Gale**

***Myrrhis odorata* / Sweet Cicely**

***Nasturtium officinale* / Watercress**

***Nepeta cataria* / Catmint**

***Nuphar lutea* / Yellow Water Lily**

***Nymphaea alba* / White Water Lily**

***Oenanthe pimpinelloides* / Meadow Parsley**

***Oenothera biennis* / Evening Primrose**

***Ononis repens* / Rest Harrow**

***Onopordon acanthium* / Scotch Thistle**

***Orchis maculata* / Early Purple Orchid**

***Origanum vulgare* / Wild Marjoram**

***Ornithogalum pyrenaicum* / Bath Asparagus**

***Oxalis acetosella* / Wood Sorrel**

***Oxyria digyna* / Mountain Sorrel**

***Papaver rhoeas* / Field Poppy**

***Pastinaca sativa* / Wild Parsnip**

***Petasites hybridus* / Butterbur**

***Petroselintum crispum* / Parsley**

***Peucadenum palustre* / Hogs Fennel**

***Phragmites australis* / Common Reed**

***Phyteuma spicatum* / Spiked Rampion**

Picea species / Spruces

Pimpinella saxifraga / Burnet Saxifrage

Pingicula vulgaris / Butterwort

Pinus sylvestris / Scots Pine

Plantago major / Great Plantain

Pleurotus ostreatus / Oyster Mushroom

Polygonatum multiflorum / Solomons Seal

Polygonum cuspidatum / Japanese Knotweed

Polygonum bistorta / Bistort

Polyonum viviparum / Alpine Bistort

Polygonum hydropiper / Water Pepper, Smartweed

Populus species / Poplars and Aspens

Porphyra umbilicalis / Laver

Portulaca oleracea / Purslane

Potentilla anserine / Silverweed

Primula vulgaris / Primrose

Prunella vulgaris / Self Heal

Prunus Avium / Wild Cherry

Prunus domestica ssp *institia* / Wild Plum

Prunus spinosa / Blackthorn / Sloe

Pteridium aquilinum / Bracken Fern

Pulmonaria officinalis / Lungwort

Pyrola minor / Common Wintergreen

Pyrus communis / Wild Pear

Quercus robur / English Oak

Raphanus raphanistrum / Wild Radish

Reseda lutea / Wild Mignonette

Rhodymenia palmata / Dulse

Rhus typhina / Staghorn Sumac

Ribes nigrum / Blackcurrant

R. rubrum - Redcurrant

Ribes grossularia, R. uva crispa / Gooseberry

Rorippa islandica / Marsh Yellow Cress

Rosa species / Wild Roses

Rubus fruticosus / Blackberry

Rubus caesius - Dewberry

Rubus idaeus / Raspberry

Rubus chamaemorus - Cloudberry

Rumex crispus / Curled Dock

Rumex acetosa / Common Sorrel

Rumex acetosella - Sheep's Sorrel

Ruscus aculeatus / Butchers Broom

Sagittaria sagittifolia / Arrowhead

Salicornia europaea / Glasswort

Salix species / Willows

Salix viminalis - Osier Willow

Salsola kali / Saltwort Syn *S. iberica*

Salvia verbenaca / Clary Sage

Sambucus nigra / Elder

Sanguisorba officinalis / Great Burnet

Sanguisorba minor - Salad Burnet

Saponaria officinalis / Soapwort

Satureja Montana / Winter Savory

Scirpus lacustris / Bulrush

Sedum telphium / Live-Forever

Sedum roseum / Roseroot

Silene vulgaris / Bladder Campion

Silybum marianum / Milk Thistle

Sinapis arvensis / Charlock

Sison amomum / Bastard Stone Parsley

Sisymbrium officinale **/ Hedge Mustard**

Sium latifolium **/ Water Parsnip**

Smyrnium olustratum **/ Alexanders**

Solanum nigrum **/ Black Nightshade**

Solidago virgaurea **/ Goldenrod**

Sonchus **species / Sow Thistle**

Sorbus aucuparia **/ Rowan**

Sorbus aria **- Whitebeam**

Spergula arvensis **/ Corn Spurrey**

Spergularia marina **/ Lesser Sea Spurrey**

Sphagnum cymbifolium **/ Sphagnum Moss**

Stachys palustris **/ Marsh Woundwort**

Stellaria media **/ Chickweed**

Suaeda **species / Sea Blite**

Symphytum officinale **/ Comfrey**

Tanacetum vulgare **/ Tansy**

Taraxacum officinale **/ Dandelion**

Taxus baccata **/ Yew**

Teucrium scorodonia **/ Wood Germander**

Thlaspi arvense **/ Pennycress**

Thymus praecox **/ Wild Thyme**

Tilia cordata **/ Small Leaved Lime, Linden**

Tilia x europaea **- Common Lime**

Tragopogon pratensis **/ Meadow Salsify**

Tragopogon dubius **- Yellow Goatsbeard**

T. Porrifolius - Salsify

Trifolium pratense **/ Red Clover**

Triglochin maritima **/ Arrowgrass**

Tussilago farfara **/ Coltsfoot**

Typha latifolia **/ Common Reedmace**

Ulex europaeus **/ Gorse**

Ulmus procera **/ English Elm**

Ulva lactuca **/ Sea Lettuce**

Umblicaria pustulata **/ Rock Tripe**

Urtica dioica **/ Stinging Nettle**

Vaccinium myrtillus **/ Bilberry**

Vaccinium oxycoccus **/ Cranberry**

Vaccinium vitis idaea **/ Mountain Cranberry**

Valeriana officinalis **/ Valerian**

Valerianella locusta **/ Cornsalad**

Verbascum thapsus **/ Great Mullein**

Verbena officinalis **/ Vervain**

Veronica beccabunga **/ Brooklime**

Viburnum opulus **/ Guelder Rose**

Vicia **species / Vetches**

Viola odorata **/ Sweet Violet**

Zostera marina / Eelgrass

Introduction

The uses of wild plants is one of the oldest branches of human knowledge. For most of our history wild plants have fed us, clothed us, sheltered us, kept us warm, helped us protect ourselves, healed our injuries and even allowed us to talk with the gods. Survival once largely depended upon an extensive knowledge of plants; where to find them, how to identify them, how to use them, what parts to use and when to gather them. Our hunter-gatherer forbears survived on wild plants for countless generations and accumulated a vast amount of knowledge on their uses. How they worked out how to make certain poisonous plants safe to eat remains a mystery, as does how they discovered that certain plants could cure specific diseases. They knew the uses of wild plants better than we could ever hope to and I have drawn heavily on their knowledge for this book.

An extensive knowledge of wild plants was also very important for farming peoples. For many centuries peasant farmers around the world have lived more or less self sufficiently on small farms, depending upon what they could grow, supplemented by what they could gather from the wild (many still do). These people have been another major source of information for this book. They used plants in many different ways; not only as a supplemental food source, but also for beer, medicines, tools, building materials, roofing, animal feed, lighting, charcoal, paint, fencing, fertilizer and many other things that made life easier. Often they would sell or trade products they had gathered, as a source of income.

As rural economies developed and became more diverse, many people began to specialize in various crafts. These people still frequently looked to wild plants for their raw materials, using them to make baskets, furniture, houses, cloth, footwear, rope and cord, nets, fish traps, dyes, musical instruments and much more. Wild plants were also important as sources of raw materials for various industries and to the medical profession as painkillers, antiseptics, sedatives and medicines for specific ailments. As the population increased it became necessary to domesticate many wild plants to meet the demand for their products. In densely populated areas these cultivated plants sometimes became an important part of the landscape, in the form of woodlots, hedgerows, orchards, groves and coppiced woodland.

Wild plants are still important today and find their way into our lives in many different ways, though we rarely go out and gather them for ourselves. Most important are the trees that provide our wood and paper. These form the basis of a huge industry and their products directly, or indirectly, employ millions of people. Trees are also widely used for firewood, a renewable source of energy that doesn't contribute to global warming. Many drugs are directly derived from wild plants, others are synthesized using natural plant chemicals as templates or as starting materials. These are an important part of a multi-billion dollar industry. At the same time much of the world still depends almost entirely on plants for their medicines because they simply can't afford the cost of modern drugs.

Many people in the developed world today know little of the wild plants that surround them and feel no connection to them. Plants that were once an integral part of our lives are now pretty much invisible, or are even thought of as a nuisance for invading our garden space. This is unfortunate because we are just as dependent upon plants for our survival as we ever were. The only difference is that the plants are grown for us, where we can't see them, often hundreds, or even thousands, of miles away. It is my hope that this book will help to raise awareness of the value of plants, how much they have given us in the past and how much more they might give us in the future.

If you grew up in a suburban or rural area you probably already know a little about the uses of a few wild plants. Children tend to be closer to the earth than adults and blackberries, wild strawberries, wood sorrel, spearmint and other plants have long been a part of country children's lives. As a teenager I was fascinated to learn that many other plants had uses too and that humans had already investigated the

plants I found growing around me (and in pretty much every area of the planet). Information on edible and useful plants wasn't readily available in Britain at that time, so I began to seek out this knowledge. The process of learning everything I could about the uses of plants has continued for over thirty years. For much of that time I have also been growing many of the plants discussed here. I wrote this book for others like me, people who are curious about the wild plants around them and want to know more about them. I might say that I have written the book I would have loved to have been able to read when I was fifteen years old (it would have saved me a lot of time).

I have incorporated many useful wild plants into my garden, to make it more productive with little extra work. I mostly grow plants that aren't common in my area, or are not native, but that thrive in my climate and perpetuate themselves. I also grow improved cultivars of local plants, or their close relatives. In doing this I have many plants available literally at my. Cultivating these plants opens up another dimension in wild plant use because we can select and improve the plants to suit our own purposes. We can choose individuals with traits more to our liking, such as better flavor, more productive, larger or earlier.

I have tried to make this book as comprehensive as possible, covering as many plants and as wide a variety of potential uses as I could. Some of these uses will not be practical for a variety of reasons. Some plants have very strong flavors that don't suit pampered modern day tastes. Some plants need special techniques to make them useful and may be too time consuming or labor intensive to be worthwhile. Many plants won't be economically practical as sources of fuel or chemicals until cheaper mined sources become much more expensive. A lot of the information on the best and easiest ways to use plants has been lost with the death of older generations, many of whom were the last to have direct experience of generations of subsistence farming. We need to rediscover how best to use many of these species before we can fully utilize them

Whenever a book such as this appears there are voices expressing concern that drawing attention to useful plants could cause an increase in gathering, so they eventually become less common. Euell Gibbons, the famous American wild food forager used to argue that conservation does not mean non-use. Gathering wild plants doesn't have to be exploitive, it can be a symbiotic relationship of mutual benefit to both plants and humans. Human beings are an ingenious species, always trying to improve their situation. Hunter-gatherers around the world realized they didn't just have to take what nature offered. They could actually increase the amount of wild food available by managing the vegetation to suit their needs. They did this by careful observation and experimentation and over many generations they played a significant role in shaping the landscape. Often what appeared to be a wilderness to white explorers was often a carefully managed and sophisticated system to enable food to grow itself with minimal human effort.

Primitive humans managed the plants with the techniques that would later form the basis of agriculture; sowing, digging, irrigation, selecting superior seeds, weeding, coppicing and burning. As every gardener knows, these simple techniques greatly increase the productivity and usefulness of plants and this applies just as much to wild plants as it does to cultivated ones. In California primitive peoples sometimes burned the land annually and created enormous stands of edible seed-bearing annuals (they often sowed part of their harvest of edible seed on the newly cleared ground), They cultivated, weeded and propagated beds of edible roots and stands of fruit bearing shrubs, thereby increasing the quantity and quality of the food available. The plants that produced basket-making materials were weeded, coppiced and cared for so they produced material superior to that growing naturally.

Obviously we live in a very different world than just described, Britain is a small island with a lot of people and it isn't even legal (or morally defensibe) to just go out and dig up wild plants at random. Just because I say a plant is edible doesn't mean it can be used. I have emphasized cultivation in this book because the growing human population is putting increasing pressure on wild places and plants. A few weeds and fruits can be gathered from the wild without harm, but many others are vulnerable and could

easily be harmed by over-harvesting. In such cases if you want to use a plant you should grow it yourself. If you don't have your own garden you might try guerrilla gardening, growing the plants on waste ground, or scattering the seed of wild plants on suitable sites.

I should probably apologize to any taxonomists out there for not keeping my botanical nomenclature as up to date as it could be. I don't doubt that quite a few of the plants I mention have been re-named recently, some probably more than once. However this book is not really intended for professional botanists, so I am not too concerned. I am interested in the plants themselves, more than their Latin binomials and if everyone knows what plants I am referring to that is good enough for me.

I have included a few easy to identify fungi in this book, but I don't go into great detail about them because they are a specialised groups and there is a somewhat greater risk with using them. This means you need more detail than I can give here.

I should also explain that I have been living in the United States for a long time and that this book is the result of my desire to create a European version of my book The Uses of Wild Plants, which dealt with American plants. If you see American spellings or references to things American this is why. I have tried to translate everything back into English, but I'm sure I have missed some things (it's like going back to driving on the other hand side of the road, sometimes you forget without realizing you have forgotten). If you see any significant errors, or have any comments on this book, you can contact me at Frank@greenmanpublishing.com

The book doesn't have pictures or descriptions of the plants, as it is intended to be used in conjunction with a field guide for your area (when it was a paper book I didn't want to make it too heavy or bulky to carry around). Ths isn't an issue with an e-book of course, but you will have to find your own e-field guide!

The Plants

Abies procera

Noble Fir

Throughout *Pinaceae*

This North American species is widely planted in gardens and forestry plantations. Their juvenile bark is pocked with small blisters full of aromatic resin. This resin has a number of special uses and demand for it once supported a minor industry in some areas.

Chewing gum: The sugar-rich resin is edible and that of several species has been used as chewing gum., but its strong balsam flavor makes it rather unpalatable.

Famine: The inner cambium layer of bark is "edible", but not very pleasant.

Medicine: Native Americans mixed the resin with lard or fat to make an ointment for wounds (they covered the wound with clean material to prevent dirt sticking to it). A poultice of the inner bark was also used to treat wounds.

Other uses: The aromatic resin has been added to soaps and perfumes. It was once used for caulking bark canoes.

Wood: In its native land this large tree is an important lumber producer. The wood is used for construction, crates, plywood and paneling. It was once used for food containers, as it has little odor. It has also been used for making paper.

Fuel: This species is poor firewood, giving only about 13 million Btu per cord. The resinous bark makes good kindling, though of course you shouldn't take it from live trees.

Christmas trees: The Firs are widely cultivated for use as Christmas trees. You don't have to kill a tree for Christmas. You can just cut off the top of the tree and leave the bottom branches to continue growing. They will soon form a new trunk (or more than one)

Other uses: The aromatic evergreen boughs are widely used by florists for wreaths and floral decorations and gathering them is a cottage industry in some areas.

Cultivation: This species is a popular ornamental in northern areas. The short-lived seed is gathered in September, before the cones open and planted in moist soil. If immediate planting is impractical, then stratify at 4°C for three months and plant in the spring.

Related species:

A. alba – Silver Fir

A. grandis – Giant Fir

A. nordmanniana – Caucasian Fir

These species are widely planted for timber, pulpwood and Christmas trees. They can be used as above.

Acer platanoides

*Norw*ay Maple

Naturalised *Aceraceae*

Though not native to Britain, Norway Maple is widely planted and now commonly naturalised. It has been tapped as a source of sugar in Scandinavia, in much the same way as Maples are tapped in North America. It is actually one of the very best syrup producing species. Unfortunately the British climate isn't very suitable for producing high quality syrup, as the trees produce best when temperatures are around 5°C during the day and - 5°C during the night.

Producing Maple syrup is a fairly straightforward process. The sugaring season starts in late winter, when sap starts to run in the trees. Sap is produced most copiously when temperatures get up into the forties during the day and drop down below freezing at night. The season ends when buds appear on the trees. The length of the season depends upon the weather. It may be as short as a week, or as long as a month.

The amount of sap yielded by a tree varies considerably with the amount of sun, wind and moisture it receives and of course the length of the season. In North America large trees have been known to yield as much as 300 gallons of sap in a season, though you would probably be lucky to get 30. It takes about 30 gallons of sap to make one of syrup.

Tapping methods: If you break a twig from a tree in late winter, or early spring, a watery sap oozes from the wound. Making Maple syrup begins with collecting this in sufficient quantity (which is easier said than done).

The most primitive tapping method consisted of cutting a V shaped slit in the bark of the trunk (much as rubber trees are tapped) and putting a stick in the bottom of the V to lead the sap into a container. This isn't very satisfactory, as it can lead to infection and rot in the tree.

The traditional tapping method is to drill a small half inch hole about two inches into the sapwood, about 3 feet off the ground. A small tube of slightly larger diameter (called a spile) is hammered into the hole to drain the sap. A bucket (now often a plastic milk jug) is hung from the spile to catch the sap and covered to keep out dirt. Up to three holes can be drilled into a large tree without harm, though tapping kills the sapwood for an inch or so around the hole, so you can't use the same hole the following year. The sap must be collected frequently in warm weather, as it spoils quickly.

Evaporating: Maple sap is mostly (about 95%) water, all of which must be removed to make sugar. This was a problem for Native Americans because they didn't have metal pots for boiling. They removed some of the water by allowing the sap to freeze overnight (water freezes at a higher temperature than the sugar, so the ice is almost pure water) and then removing the ice. Alternatively they would let the sap freeze solid and then allow it to melt (the sugar melts first). The more concentrated sap was then boiled in bark or wood containers by dropping heated stones into it. This process isn't as inefficient as it sounds, but metal pots for boiling the sap were one of the first important trade items with Europeans.

Any pan can be used for evaporating, but wide shallow ones are best, as the large surface area allows for most efficient evaporation. Many kinds of evaporators are used for home sugaring, ranging from converted barbecues and oil drum stoves, to specially designed commercial evaporators with separate compartments for raw sap and finished syrup. You can't really use the indoor kitchen stove (unless you want to remove the wallpaper), as you will fill the house with steam. Serious sugar producers have a special sugaring shed out among the trees, so they can work comfortably in all weather.

The sap is strained to remove twigs, insects and dirt and then boiled until all the water is removed. As the water boils away, more sap is added to maintain a full evaporator. When the pan is full of thick syrup it must be watched very carefully, as it can easily stick to the bottom of the pan and burn, ruining the flavor. The traditional way to check when the syrup is done, is to pour a spoonful onto the snow and watch how it congeals. This is how Maple candy originated, it is simply syrup poured onto the snow to cool and eaten off of a stick. A more precise way to check it is a candy thermometer. When the syrup reaches 103 degrees C it is finished.

Sap uses: Maple syrup is traditionally used to sweeten pancakes, oatmeal, sweets, etc. It has also been fermented to make beer.

Greens: The small tender seedlings have been added to salads.

Wood: In Britain this tree doesn't usually get big enough to be an important timber producer. This is unfortunate because the wood is hard, strong and attractive and works and finishes well. It is commonly used for cabinetmaking, flooring and turning. The sapwood has been used to make split baskets.

Fuel: The wood is good fuel, giving about 24 million Btu per cord. The resulting ash is rich in potassium and was once used for making soap and glass.

Animal food: Many birds and small animals eat the winged seeds. In winter rodents sometimes chew the bark to get at the sugar rich cambium layer.

Cultivation: In summer Maples often produce seed in such abundance it can be gathered by the bucketful. This should be planted immediately in rich, deep, well-drained soil. An easy way to get Maple trees is to carefully dig the seedlings from the wild. In spring they can often be transplanted from around mature trees or lawns.

The young seedlings prefer part shade, though mature trees need full sun. The trees respond well to fertilizer. When given an inch of sewage sludge weekly they grew four times faster than unfertilized trees.

Maples coppice well and can be cut for firewood or pulpwood on a 10 to 25 year rotation.

Fertilizer: The leaf mould and wood ash are excellent garden fertilizers.

Related species:

Almost any *Acer* species can be tapped for syrup. It is the climate than dictates success more than the species. You could experiment with any you find of sufficient size and abundance.

A. campestris Field Maple

This is the only native *Acer* species. It is quite common in southern woodls and hedgerows. Used as above.

Acer pseudoplatanus / Sycamore

The Sycamore self-sows freely and is now our commonest *Acer* species. This is somewhat surprising as it was only introduced into Britain in the sixteenth century. It has been tapped for sap as described above.

The Sycamore is often disparaged by foresters and others, yet well grown trees can be a very useful source of fine timber. The wood resembles Beech and is strong, close grained, cleaves and carves easily and doesn't taint food. It is used for turning, kitchen tables, wooden rollers, veneer, kitchen utensils (it doesn't taint food) and especially musical instruments (cloven Sycamore wood is preferred for the sides and back of fine violins).

This vigorous, fast growing tree has been used for reforestation, as a shelterbelt or windbreak and as an ornamental. It coppices well.

Achillea millefolium

Yarrow

Throughout *Asteraceae*

This perennial is very common in fields, roadsides and waste places throughout Britain.

Greens: The aromatic, tender young shoots, leaves and flowers are a minor salad ingredient, but too strongly flavored to eat in bulk. They have also been used as a potherb, either mixed with milder greens, or cooked in a change of water to reduce the strong flavor.

Drinks: I most often use Yarrow as a minor addition to green blender drinks (see Comfrey - *Symphytum*). It was once widely used for flavoring beer, but was eventually displaced by Hops.

Medicine: Yarrow has historically been most important as a wound herb, as indicated by such common names as Carpenters Grass, Herbe Militaris and Woundwort. According to myth, Cheiron the centaur taught the Greek warrior Achilles how to use the leaves to treat his wounded soldiers (hence the generic name *Achillea*). In the form of a wash, poultice or salve it continued to be an important military wound dressing even into the twentieth century. Among its active ingredients are tannin (which is astringent), an alkaloid called achilleine (which apparently helps blood to clot) and salicylic acid (which is antiseptic). It is also anti inflammatory. See *Plantago* for how to use leaves as wound dressings.

Yarrow has been used to stop internal bleeding and to treat ulcers and insect bites. It is also used as an eyewash for tired or irritated eyes (often with Fennel (*Foeniculum*).

The plant was once used as an emmenagogue and in large amounts as an abortifacient. It was also used to stimulate the liver, help digestion, promote sweating (one of the best herbs for this), relieve toothache, treat diarrhea and lower blood pressure.

For medicinal use Yarrow can be used any time, but is most potent when in flower (or just before). If you use the plant raw, make sure it is perfectly clean before putting it on a wound; otherwise you might introduce harmful organisms and cause infection.

Hair treatment: A strong decoction of Yarrow leaves may be rubbed into the hair after shampooing. This was once considered so beneficial as to be able to prevent baldness. It was often mixed with other herbs, such as Nettle, Chamomile and Sage and is still found in some high priced herbal shampoos.

Other uses: Native Americans smoked dried Yarrow leaves and tops with other herbs. It was also powdered for use as incense and snuff (which is probably why a related species has the common name Sneezeweed). The stalks have been used in dried flower arrangements and for throwing the Iching.

Companion plant: Most gardeners consider Yarrow to be a minor weed of lawns and flower borders, but biodynamic gardeners believe it to be one of the best of all companion plants. They say it stimulates the growth of nearby plants, increasing their disease resistance and content of essential oils. They sometimes even transplant Yarrow alongside ailing plants to revive them. Its scent is said to repel garden pests such as Japanese Beetles and ants. If any of these claims are true Yarrow deserves a little space in every garden.

Horticultural uses: Yarrow is a fine lawn plant and has been planted along with Thyme, Chamomile and Clover as a low maintenance herbal lawn. If you can get enough of the foliage it can be used to make an excellent liquid fertilizer (see Comfrey *Symphytum).*

Cultivation: Yarrow is easily grown from seed, soft cuttings or division and thrives in almost any soil or situation. It spreads rapidly in good soil and sometimes becomes a minor weed.

Acinos arvensis

Basil Thyme

Syn *Calamintha acinos*

Native *Lamiaceae*

This hairy little plant can be found in the southeast of England, but is not very common.The flowering tops have been used for flavoring like it’s namesakes, but isn’t very good.

Acorus calamus

Calamus

East *Araceae*

Calamus or Sweet Flag is found in shallow water or boggy ground. It is distinguished from the somewhat similar, but poisonous, Wild Irises by its light green color and pungent Gingerlike taste and smell.

Caution: Sweet Flag contains asarone, which was banned from use as a food additive in the USA in 1968. In quantity it can cause central nervous system depression, intestinal tumors and low blood pressure.

Some Native American tribes used Sweet Flag root to induce visions and considered it to be a sacred plant. They also chewed it to increase endurance and reduce fatigue, much as Coca leaves are chewed in South America. Apparently chewing a small 1 to 2" piece of root would increase endurance (runners described themselves as "running above the ground") and bring on a feeling of well-being. A large 10" piece could induce visions (or hallucinations, depending on your view of reality). It was originally thought that asarone was responsible for the psychoactive effects (the body can convert it into trimethoxyamphetamine), but it is possible that another substance may be responsible.

Flavoring: The roots may be used for flavoring any time they are available, though they are best when dormant in winter (if hard to locate). They can be used as a substitute for Ginger in baking and were once popular candied as a confection.

Shoots: The new spring shoots and succulent young leaves are a delicious minor addition to salads. They can also be cooked for a few minutes as a potherb, or added to soup.

Tea: Almost all parts can be used to make tea. The roots have been used in liqueurs, cordials and root beers.

Medicine: Sweet Flag root was once included in the USP as a stomachic, carminative and to treat hyperacidity. It has also been used as an antiseptic and to kill parasites both internally and externally.

Aphrodisiac: The root has long had a reputation as an aphrodisiac, which might (with a little imagination) be linked to its vision inducing qualities.

Insect repellant: Calamus oil, or synthetic asarone (the active ingredient), has been used to keep moths from clothes, to repel fleas and lice and as a nontoxic fumigant for grain. Ironically the oil actually attracts fruit flies and has been used as bait to catch them. It has been found that the roots secrete a substance that can kill harmful bacteria.

Strewing herb: The leaves were once prized as a strewing herb (they were scattered on earthen floors to hide unpleasant smells), as they have a fine scent and insect repellant properties.

Other uses: The powdered root was used in tooth powders (also used to relieve toothache), sachets and herbal smoking mixtures and as a substitute for Orris. The essential oil was added to perfumes and to bathwater to aid in relaxation.

Cultivation: This attractive plant is often grown as an ornamental in sunny wet places, ditches, lake margins and marshy ground. It can also be grown on dry land if watered frequently. Like many aquatic plants it grows rapidly and may produce as much as 2000 pounds of root per acre annually. Propagate by root division, or ripe seed planted in a flat of rich soil and kept very wet. Transplant the young plants to a permanent site when several inches high

Horticultural uses: Sweet flag has been planted in the garden and around houses, to keep away ants and other pests. The powdered root has been used as a general garden insect repellant.

Adiantum capillaris veneris Maidenhair Fern

Native

The dried leaves have been used for tea, but its not worth disturbing wild plants for this.

Aegopodium podagraria

Ground Elder

Native *Apiaceae*

This aggressive perennial is usually found near the works of humans, sites of previous habitation and gardens. It is common throughout the British Isles.

Leaves: The young leaves, picked while still young and tender, are a good pot herb if cooked for 10 minutes. They can also be eaten raw in salads. Older leaves have been added to soups. They were once quite a popular food in parts of Northern Europe

Medicine: Also known as Goutweed this plant was once widely used as a remedy for that affliction. It is diuretic and is said to aid in the elimination of uric acid and other waste products. it has been used externally as a poultice or wash for muscle pain and arthritis.

Anglo Saxons recommended it “to preserve swine from sudden death” (surely a more effective way to do this would be to stop eating them).

Horticulture: Ground Elder has been cultivated as a pot herb, but it is extremely invasive and spreads inexorably, by creeping roots and seed. If you must plant it (be warned), it likes moist soil with some shade. A variegated variety is used as a ground cover for poor, shady soils where little else will grow.

Aesculus hippocastanum

Horse Chestnut

Throughout *Sapindinaceae*

Horse Chestnut is not native, but it is widely planted as an ornamental in gardens and parks and is now thoroughly naturalised throughout Britain.

Caution: The large plump nuts look like a valuable food source and they can be eaten if carefully prepared. They are poisonous when raw however, as they contain a toxic glycoside called aesculin, which destroys red blood cells and causes nausea, vomiting and paralysis.

Even when properly treated the nuts are not a particularly attractive food.. They are a potentially important survival food however, as they are often available in quantity and contain as much as 11% protein, 5% fat and 70% carbohydrate.

Preparation: Aesculin is water-soluble, so the nuts can be leached in much the same way as acorns (see *Quercus*). The tough, leathery shells are harder to remove however and were soaked overnight to soften them and make removal easier. Native Americans often steamed them in a fire pit for up to 10 hours and then peeled and sliced the soft kernels. These were then leached like acorns in a stream for several days until sweet. Alternatively the steamed kernels were pounded to meal, which was then leached in a sand filter for 2 to 10 hours.

Uses: The leached meal was used like that of acorns, for baking, or to make porridge (which was eaten hot or cold). It was usually prepared as needed, as it doesn't keep very well.

Fish poison: Probably while leaching the nuts primitive humans discovered another property of the nuts. The leachate stupefies fish, causing them to float, but without affecting their edibility. The leaves and flowers have been used in the same way.

Alcohol: The starchy nuts have been fermented to produce alcohol.

Animal food: The nuts were prepared as animal feed by crushing and soaking for 24 hours and then boiling for 30 minutes in fresh water. The flowers are an important source of nectar for bees and other insects.

Soap: Aesculin has a detergent effect and can be used to clean clothing (just crush the leaves and agitate them in water). It may even help protect them against insects such as moths.

Wood: The soft wood was prized for cutting boards, as it doesn't blunt knives.

Cultivation: Easily grown from ripe seed, planted immediately, or stratified at 4°C for four months. They don't transplant well. Generally they prefer well-drained, fairly rich soil.

Horticultural uses: This stately and attractive tree is widely planted as an ornamental.

Agaricus campestris

Field Mushroom

Native Fungus

With its pink gills and white cap it looks a lot like commercial mushrooms. It is usually found in fields. especially those where livestock has grazed, from August to November. It isn't as easy to identify as some other edible fungi because it superficially resembles a number of poisonous species.

This species can be used in the same ways as the closely related commercial mushroom.

Related species:

Agaricus arvensis / Horse Mushroom

This species is quite similar to the above, but is a lot bigger. It can be used in the same ways.

Agrimonia eupatoria

Agrimony

Native perennial *Rosaceae*

The flowering tops have been used for tea, either dried or fresh.

Agropyron repens

Couch Grass

Throughout *Poaceae*

This European native now grows almost all around the world and is almost universally despised as one of the worst of all weeds. Its creeping roots spread aggressively and any fragment that breaks off will quickly grow into a new plant. The creeping shoots are incredibly tough and have been known to penetrate boards, tree roots and even road surfaces. If undisturbed for a season a single plant may grow four feet high and spread an inch per day to form a mat ten feet across. Under ideal conditions a two-year-old plant may have a total root length of over 300 miles. No wonder the Anglo-Saxons gave it the name Couch, which means vivacious.

As if its aggression and vigor weren't enough to condemn it, Couch Grass also secretes a substance that inhibits the growth of neighboring plants. This effect that may persist even after the plants are removed.

Roots: You might think eating the plant is going a little too far, the action of one who has done too much weeding, but the nutritious rhizomes have actually been sold in markets in parts of Europe. They contain up to 8% sugar, a form of starch called triticin and are rich in the minerals iron, potassium and silica.

The roots are gathered while dormant from fall to spring, dried, ground to flour and mixed with wheat flour for making bread and porridge. Flour could probably be extracted as for Reedmace (see *Typha*).

Drink: The roots have been used for tea with lemon and honey and also roasted as a coffee substitute.

Seed: The seed has been used like that of the related Wheat (*Triticum*).

Medicine: The green juice from the plant has been used as a chlorophyll rich tonic (sick animals instinctively seek it out and chew it). A tea of the roots was used as a diuretic spring tonic, blood purifier and for kidney and urinary problems such as cystitis and bladder infections.

Animal food: Couch grass and its relatives are useful as forage plants on very poor soils. The starchy roots are a favorite food of pigs and these animals have been used to eradicate it from fields. Many birds eat the seeds.

Horticultural uses: No one who has fought a serious infestation of Couch grass would ever dream of planting it (except in a nightmare perhaps), but the plant does have some horticultural value. It is excellent for stabilizing bare soil and sand dunes, enriches poor soils with humus and concentrates soil minerals in an easily utilized form.

The genes of *Agropyron* species have been incorporated into cultivated wheat varieties to improve disease resistance. Some species (*A. elongatum, A. intermedium, A. trachosporum, A. repens*) have been crossed with Wheat (*Triticum* sp) to produce perennial grain crops known as Agrotriticums. Some of these have a higher protein content than Wheat and have produced up to 25 bushels per acre, but their yield gradually declines after the first year.

Eradication: You might feel like giving up when faced with a serious infestation of Couch Grass, but there are ways to remove it. A thick mulch of leaves, carpet, black plastic or cardboard can smother it. Large plants such as Sunflowers or African Marigolds (*Tagetes minuta*) can shade and choke it out, while pigs will happily dig it up and eat it. Several smother crops of Buckwheat may weaken it to the point where it can be removed.

Couch Grass can also be killed by repeated cultivation, the roots being chopped up as they produce new leaves in spring (and consume much of their food reserves). They are then cut again every time they sprout, until they are exhausted and die. Prevent reinfestation of cleared areas by digging a ditch somewhat deeper than the plant roots penetrate.

Related species:

A. caninum – Fibrous agropyron

Used as above.

Alaria esculenta

Kelp

Native seaweed *Phaeophyta*

Many species of seaweed are known as kelp, but this is probably the original. One of the most commercially important Seaweeds, it is harvested on a large scale for use as fertilizer, food and as a source of alginates.

Caution: When gathering any seaweed make sure the water isn't polluted.

Nutrients: Kelp is very rich in minerals, containing up to thirty different elements. An analysis of this seaweed also shows it to be rich in carbohydrates, but these are in a form that humans have difficulty in assimilating and at best only 50% is actually digested. Apparently our ability to digest the plant improves

if it becomes a regular part of the diet, as the stomach starts producing suitable enzymes. The dried plant is available in tablet form as a natural mineral supplement.

Gathering: This seaweed is always found underwater, so must be gathered by swimming or from a boat. When gathering any seaweed never uproot the whole plant, always leave part of it to regenerate. Sometimes storm cast weed is still good to eat.

Salt: The dried powdered fronds can be used as a mineral rich salt substitute and is available in health food stores for this.

Food: The young fronds can be eaten while still tender. In Japan similar species are used in salads, soups, sauces, stir fry and even tea (under the name wakame). The midribs are also edible raw or cooked. You can reduce their saltiness by soaking in water for a half hour before use (throw this water away).

Jelly: You can gather fronds that have been recently washed ashore (so long as they are fresh), or cut the growing plants from a boat at any time of year. They can be used to make jelly in the same way as Irish Moss (*Chondrus).*

Alginates: Kelp is an important commercial source of alginates, which are widely used in the food processing industry, to stabilize and add body to dairy foods such as ice cream, milk shakes, salad dressings and yogurt. It is also added to frozen foods to prevent ice crystals forming and to give a foamy head to beer and some soft drinks.

Medicine: Kelp tea is a good tonic and is a cure for most mineral deficiencies (especially iodine). It has also been used to hasten the healing of broken bones. Tibetan mountaineers are said to eat seaweed to combat fatigue, which sounds reasonable until you consider how far the sea is from Tibet.

Algin forms a thick gel when mixed with water and has been used as a bulk laxative. Because it is so little affected by stomach acids it has been used as a time release coating for some drugs.

The indigestible gel also gives a feeling of fullness in the stomach and has been used in diet pills to prevent the pangs of hunger experienced by people trying to lose weight (a pretty irrational way to go about it in my opinion!).

Chemicals: Kelp has long been gathered as a source of potash and iodine and as garden fertilizer in coastal areas and but it only became commercially important as a source of alginates in the 1930's.

Algin is also found in a wide range of industrial products and processes. Used as a suspending and emulsifying agent for paints, cosmetics, plastics, insecticides, adhesives, waterproofing, fabric size, inks and glazing. It is also used in wallboard, synthetic fibers and wood preservatives.

Animal food: Kelp is occasionally used as livestock feed (known locally as Pigweed) and has similar nutritional qualities as Alfalfa (*Medicago*).

Fertilizer: Kelp is a very valuable garden fertilizer and can often be gathered in quantity on the shore after storms. After washing in fresh water to remove excess salt, the fronds can be dug into the soil as green manure, added to compost heaps or used as mulch.

Probably the most effective way of using the plant as a garden fertilizer is as a liquid foliar feed. A number of commercial liquid seaweed fertilizers are available, though it is quite easy to make your own, by allowing the plants to rot in water as for Comfrey (see *Symphytum*) This liquid is also said to be useful for germinating hard to start seedlings and rooting cuttings.

The plant is good fertilizer for a number of reasons. Sea water contains an abundance of all the elements necessary for plant growth and consequently the seaweeds are very rich in minerals. In fact their mineral content reads like a list of essential plant nutrients; copper, magnesium, manganese, boron, zinc, phosphorus, potassium, sulphur, calcium, iron and molybdenum. They also contain other minerals not known to be essential to plant growth, but valuable to humans.

Kelp also contains cytokinins, substances similar to growth hormones which make plants larger, healthier and more resistant to stresses such as drought, heat, frost, insects, disease etc. The algin in seaweed is an excellent soil conditioner and may make nutrients in the soil more readily available to plants. It is said that a number of garden pests (e.g. nematodes) avoid soil fertilized with seaweed.

Plants (like humans) can have too much of a good thing, so seaweed must be used in small quantities. In excess it may actually be harmful to plant growth! A good foliar feed might be one part liquid fertilizer diluted with 100 hundred parts water.

Transplant aid: Another horticultural use of alginates is as an aid in tree planting. A solution of algin is often used to coat bare root saplings to help them survive transportation and transplant shock and it definitely increases their chances of survival. Plants may also be watered with an algin solution before and after transplanting. Some plants so treated have supposedly been transplanted while blooming without even wilting!

Related Species:

A. crispa

A. praelonga

A. marginata

A. taeniata

A. nana

Used as above.

Alchemilla vulgaris

Ladys Mantle

Native perennial *Rosaceae*

This species is common throughout northern Britain.

Greens: The tender young leaves can be used as a salad or potherb. Most often they are mixed with other greens for soups, etc. Older parts contain a lot of tannin, which makes them unpleasantly astringent.

Medicine: The genus name is derived from the word alchemy and was given because the plant was believed to have powerful medicinal properties. The tannin rich leaves were prized as a wound dressing to stop bleeding (particularly after tooth extraction) and for diarrhea. The common name was given for its value in treating women's complaints, such as excessive menstruation and as an aid in childbirth.

Alisma plantago aquatica

Water Plantain

Syn *A. triviale*
Native *Alismataceae*

This species can be found in wet soils and shallow water throughout Britain, except for the far north.

Caution: This aquatic species contains extremely caustic juice, but it has been eaten after careful treatment. However it doesn't really taste very good and isn't worth bothering with, except in the unlikely event that you are starving. Never having been in danger of this I haven't tried it.

Stems: From fall to spring the starchy bulbous stem bases can be eaten if dried and then cooked in several changes of water. The cooked bases can then be ground to flour for baking etc, or eaten as a vegetable (frying the cooked roots improves their flavor).

Cultivation: The plant is sometimes grown as an ornamental in shallow water or wet ground. Propagate from seed or division in spring.

Alliaria petiolata

Garlic Mustard

Syn. *A. officinalis*

Native biennial *Brassicaceae*

This hardy member of the Mustard family is common in England, but not in Scotland or Ireland. It is a useful wild food because it often persists over the winter and is one of the first plants to start growing in spring, so provides fresh greens very early in the year.

Food: The young leaves have a distinctive mild Garlic odor and can be used raw to add pungency to salads and sandwiches. They can also be used to flavor soups and sauces. Older leaves and shoots can be used as a potherb until the flowers open, though you may need to change the cooking water once or twice to reduce their bitterness. After this they get too pungent to eat.

The seeds can be used like those of Mustard (*Brassica*), as a condiment. The flowers are also edible.

Medicine: The Leaves have been used as a wound poultice.

Cultivation: Garlic Mustard is easily grown from seed in moist soil and self-sows freely. It will grow happily in light shade. If you can get enough seed it can be grown as a cut and come again salad crop.

Allium species

Wild Garlics

Wild Onions

Throughout *Amaryllidaceae*

This genus can be roughly divided into those species that taste like Onions and those that taste like Garlic. Their value as flavoring varies considerably. Some are good raw, others are only good cooked and some are so strongly flavored they can only be used for flavoring.

These are very useful wild food plants for the forager, as they are useful for flavoring blander foods. They are easily identified by their characteristic odor.

Caution: Though *Alliums* are very widely eaten throughout the world, they have been known to poison livestock, with symptoms of liver and kidney irritation, jaundice and anemia. No cases of serious human poisoning have occurred, though they can cause stomach upset when eaten in quantity and may irritate the kidneys. They may also accumulate toxic selenium or nitrates from the soil, so use the green parts cautiously.

These species store their starch in the form of inulin, which is quite indigestible to humans (see Elecampane *Inula*) and can cause flatulence and indigestion if eaten in quantity.

Rare: Some *Allium* species are quite rare and shouldn't be disturbed.

Flavoring: The bulbs, bulblets, flower buds and green tops can be used to flavor wild greens, soups, salads and sandwiches.

Greens: Tender spring foliage can be added to salads. Older foliage is too tough to eat, but can be used as flavoring. Simply remove the tough parts after cooking.

Bulbs: Onion bulbs are at their best while dormant, from fall to early spring, though they may be hard to find at this time. Some bulbs can be uprooted by pulling on the tops, others must be carefully dug as the tops break off easily. The larger bulbs and bulbils can be pickled like cultivated Onions.

Medicine: *Allium* bulbs are antiseptic and perhaps antibiotic and have often been used to treat wounds and insect bites. They are also rich in vitamins A and C and have been used to cure scurvy. Cultivated Onions (and perhaps other species) may also help reduce cholesterol and blood pressure levels. Onion tea was once used as a spring tonic to cleanse and rejuvenate the body.

Insect repellant: It is said that Native Americans used these pungent plants as insect repellants, by simply smearing them on their skin. This may also repel people though.

Animal food: *Allium* flowers are attractive to bees and other insects.

Cultivation: These beautiful species are relatives of the Lilies and (like those plants) they are often grown as ornamentals. Generally they prefer a rich moist soil with some sun and are propagated from seed, bulbils or offsets. Once established they reproduce both vegetatively and by self-sowing.

Useful species include:

No Allium species is toxic, so you can experiment sparingly with any *Allium* (so long as it is abundant). A few introduced species may be found locally

A. ampeloprasum Wild Leek

A. oleraceum Crow Garlic

A. vineale Field Garlic

These species are common weeds on lawns and waste places. They are too pungent to eat raw, but can be used sparingly as flavoring.

A. schoenoprasum Wild Chives

This is the wild form of common garden Chives, though somewhat coarser and more strongly flavored.

A. scorodoprasum Sand Leek

Used as flavoring like Onion or Garlic, it is so good it has even been cultivated.

Allium ursinum

Ramsons

Throughout *Amaryllidaceae*

This species is common in woodland throughout most of Britain, except the far north, though it is only obvious in late winter and early spring (it disappears in early summer). The leaves can be used in salads if you like a storng garlic flavor, or steamed for a few minutes. They can also be added to soups and other dishes in the last few minutes of cooking to add flavor.

It can be grown from seed.

Alnus glutinosa

Alder

Native tree *Betulaceae*

Alder is very common throughout Britain on wet soils. Like its cousin the Birch (*Betula*), it is pioneer tree, fast growing, short lived, intolerant of shade and able to colonise disturbed ground rapidly.

Food: This species is of little value as food, though the inner bark has been eaten in times of famine and the immature catkins are said to be nutritious, if not very tasty.

Drink: Apparently some Alder species have been been tapped like the Maple (*Acer*) to produce syrup and drinking water.

Medicine: Alder bark contains as much as 20% tannin and is used medicinally as an astringent gargle for sore throats. Native Americans used a decoction or poultice of leaves or chewed bark for bruises, burns, wounds and even gangrene. Thoroughly dried and aged bark has been used to treat diarrhea (fresh bark is emetic).

Wood: Alder wood is quite attractive but the trees are usually too small to be of much use in cabinetmaking. Alder wood is durable if kept wet and is often used for pilings and revetments. It rots quickly out of water.

The wood is soft and easy to shape and was once prized for making the soles of clogs. Itinerant clog sole makers once travelled the north, setting up camp and working, wherever they found suitable Alders. These were coppiced on a 25 year rotation.

Fuel: Alder is not very good firewood and takes a long time to season. It makes excellent charcoal however and was once commonly coppiced to make charcoal for gunpowder (and later for gas masks).

Wildlife: Alder provides food for many species of insects and birds.

Tooth powder: The dried bark was once mixed with Ginger, Sweet Flag, Bayberry and other herbs, to make a powder for cleaning the teeth.

Cultivation: Alder seed is gathered from the ripe cones in late summer and sown as soon as possible. It can also be stratified at 2°C for three months and planted the following spring. The trees may also be grown from suckers, hardwood cuttings or layering. They do well on wet soils and once established they spread vegetatively.

Alders are able to fix atmospheric nitrogen by means of symbiotic actinomycete bacteria in nodules on their roots, so are valuable pioneer trees. An acre of the trees can add 150 pounds or more of nitrogen to the soil annually, mostly in the form of leaf litter.

Alder loves wet soil and can grow on sites too wet for most other trees (it is a useful indicator of nearby water). They are often planted along watercourses to prevent erosion (they spread vegetatively once established). Poles used for revetting often take root and grow.

Horticultural uses: Because of their nitrogen fixing ability Alders are valued for reclaiming damaged land such as mine spoil heaps. They are sometimes planted as nurse trees to protect tender tree seedlings from climactic extremes and are planted along watercourses to prevent erosion.They have been used in forest gardens to supply nitrogen to the soil.

This species was once coppiced (on a 10 to 20 year rotation) to provide poles for various farm and home uses. It has recently been proposed that Alders be grown in energy plantations, the wood being used for firewood, or processed to produce charcoal, alcohol and wood gas.

Althaea officinalis

Marshmallow

Native perennial *Malvaceae*

Marshmallow is mostly found in the south, in marshes near the sea, but is not very common in the wild. It is commonly cultivated however and may also be found as an escape.

Root: The white roots are rich in sugar, starch and mucilage and tender young roots were once toasted or candied to produce the original marshmallows. They can be peeled and eaten raw in salads, or boiled as a vegetable, but are very slimy and not all that pleasant (frying the cooked roots reduces this quality). The slime can actually be put to use as a soup thickener. They are best gathered when they go dormant in winter, so you have to learn what the dead plants look like.

Chewing stick: The clean dried root has been used as a toothbrush.

Medicine: The genus name *Althaea* means to heal and was given because of their importance to herbal medicine. The mucilaginous nature of the plant makes it useful as a soothing poultice or wash for skin problems, wounds and burns. The grated root is especially good and has even been used to treat gangrene. It has been taken internally to treat the entire digestive tract. The whole plant helps strengthen the immune system.

Other foods: The young leaves, seed pods and flowers are edible and may be added to salads, used as a potherb, or made into tea.

Cultivation: As the name suggests Marshmallow likes marshes and wet ground. It is usually propagated by division, but seed works well also.

Amaranthus species

Pigweeds

Naturalised annuals *Amaranthaceae*

These American weeds (usually either *Amaranthus retroflexus* or *Amaranth hybridus*) are quite common

in some areas, in the disturbed soil of waste ground.

Some Amaranthus species were an important grain crop in their native South America. The seed has a better amino acid balance than almost any other common vegetable protein and even contains the lysine and methionine often lacking in plant proteins. It is also rich in vitamins and the minerals calcium, phosphorus and iron. The leaves are rich in protein, vitamins A and C, calcium and iron.

Caution: The leaves contain oxalic acid, so should be eaten in moderation. One must also be careful about gathering the plant where chemical fertilizers are used, as they may accumulate nitrates and become toxic. Fortunately when used as a potherb most of these toxins are leached out, so they are unlikely to be consumed in dangerous quantities.

Seed gathering: Gather the seed by bending the ripe heads into a bag and rubbing out the dry seeds. For larger quantities collect the whole heads and leave them on a sheet to dry out. When they are completely dry, beat or walk on them to thresh out the shiny black seed, winnow out the chaff and it's ready to use. Native American women used to do all this in one operation. The whole spike was stripped off into the hand and the chaff was blown away to leave clean seed. If birds were a problem they would tie the ripening flower spikes together.

Seed use: Unlike many wild seeds, those of Pigweed need no preparation except cleaning. However toasting improves its flavor and causes it to pop like popcorn. This can be done in a hot pan in the same way as for popcorn (if it won't pop try sprinkling a little water onto the seed). If you have a large quantity of seed, spread it a half inch deep in a pan and roast it at 175 degree C oven for a half-hour, stirring occasionally.

The popped seed can be added whole to baked goods, ground to flour for baking and porridge. The whole raw seed can be sprouted like Alfalfa until about one quarter inch long and used in salads and sandwiches. It can also be boiled like millet in salt water. Some people soak it in water overnight before cooking.

Greens: The tender young spring leaves and growing tips are good until the flower appear and may be used in salads, or boiled for 5 to10 minutes as a potherb. Older leaves may be added to soup, or boiled as a potherb for 20 minutes.

Cooked greens: Probably the best way to cook Pigweed greens is to sauté some onion and garlic in a pan and then add the washed greens. The water sticking to the leaves will be enough to cook them. If you plan to serve these to guests you might want to call them something other than Pigweed, maybe Chinese Spinach.

The leaves are a useful addition to green drinks (see Comfrey *Symphytum).*

Leaf protein concentrate: The abundant foliage has been processed to give a crude protein concentrate for use as a food supplement. Considering the vigor with which the young plants grow this could be an important source of protein. The leaves are richest in protein when about 5 to 6 weeks old, so are best gathered at this time. A pound of leaves is put in a blender with two quarts of water and liquefied. The liquid is then strained and heated, stirring constantly to prevent it burning. When the temperature reaches 80 degrees C it is removed from the heat and allowed to cool. After settling the resulting sediment is strained and squeezed in the same way as cheese or tofu. The resulting stuff can then be eaten immediately (it tastes rather strange), dried and added to other foods, or frozen for storage.

The dried leaves can also be powdered in a blender to produce a simple leaf protein powder.

Medicine: The mildly astringent leaves have been used as a poultice for wounds, insect bites and stings. These wind-pollinated plants often cause hay fever.

Animal food: Wild Pigweeds are an important food source for many wild birds and have been planted or encouraged to help feed domestic fowl. The foliage is a valuable feed for livestock.

Crop uses: Some *Amaranthus* species are becoming important crop plants once again. They originated in the tropics and use C4 photosynthesis, which makes them more efficient in the high heat and light intensities found there. Consequently they can produce a lot of food in a limited area. Individual seed heads from cultivated plants may weigh up to five pounds each and the plants may yield up to two pounds of seed per square yard. Not many North American tribes cultivated Amaranths, but they did encourage them to grow nearby by scattering seed in suitable places. If you have the space this is still a good way to grow them. Some cultivated varieties have white seed instead of black.

A number of species are cultivated as warm weather substitutes for spinach. Look for the seeds under the names Tampala, Chinese Spinach or Hinn Choy. These tend to be less weedy and slower to bolt than the wild types. In my garden they self sows so easily that I don't have to plant them (I just have to be careful they don't become a weed!)

Cultivation: Sow the seed directly in rich soil, after frost danger is past and the soil is warm. Once established they grow like weeds and produce ripe seed heads in 3 to 4 months.

Horticultural uses: These species are a mixed lot, with crop plants, ornamentals and weeds all represented. The ornamental species (LoveLiesBleeding, Joseph's' Coat) also produce edible leaves and seed. Amaranths are said to be good companions for carrot, radish, pepper, eggplant, potato, corn, cucumber, tomato and onion.

Some species are serious agricultural weeds. They produce an abundance of long-lived (up to forty years) seed and can out-compete almost all crop plants.

In small numbers they may actually be beneficial in the garden, as they attract birds and their deep roots loosen compacted subsoil and raise nutrients to the surface.

Amelanchier intermedia

Juneberry

Introduced shrub *Rosaceae*

This species (and related ones) is occasionally cultivated in gardens as an ornamental (sometimes known as Showy Mespilus or Shadbush) or soft fruit crop. It is locally naturalised in the south, but is not very common. It may be found as an escape in other areas.

Caution: Use the berries in moderation, as excessive consumption may cause diarrhea.

Gathering: For a few days in spring the plants are covered in white blossoms and stand out like beacons. This is the best time to locate them, so you can return in early summer to gather the fruit. In a good location the fruits can quickly be gathered in quantity.

Uses: Though somewhat mealy or seedy, the berries are rich in vitamin C and carbohydrates. They are good raw or cooked, in the same ways as Blueberries, in jelly, pies and muffins. Some people say a little lemon juice improves the flavor of the cooked fruit. They can be preserved by drying like raisins, or by freezing the whole fruits.

Native Americans crushed the berries into flat cakes and dried them for winter use. Often they mixed them with wild grass seeds to make “bread”. They also used them for making a staple food, pemmican, which is a mixture of Buffalo meat, fat and the berries. The dried fruit was sometimes ground to meal and mixed with wheat flour for baking.

Drink: The berries are sometimes fermented to make wine.

Wood: Native Americans prized the supple shoots for making arrows. The wood has been used for bows, spears, tool handles and fly fishing rods.

Cultivation: Juneberry is grown as a spring flowering shrub and to attract birds to the garden. If you don’t have wild plants growing nearby they are well worth growing as soft fruits and superior cultivars already exist.

They have the potential to become a garden fruit crop in Britain. They are self-fertile, shade tolerant, very hardy and pretty enough to have been grown as spring flowering shrubs or hedges. Propagate by suckers (best), layering, softwood cuttings, division or seed (stratify for three months at 4°C). They prefer moist soil.

Anagallis arvensis

Scarlet Pimpernel

Native *Primulaceae*

A common annual weed on waste ground and cultivated land in England

Food: Scarlet Pimpernel has a rather bitter taste because it contains quite a lot of saponins and some people consider it poisonous. However the young leaves have been eaten as a pot herb on occasion. They should be used with caution, if at all.

Medicine: This little plant was once considered to be something of a panacea and was used to treat epilepsy, eye, pulmonary and mental disorders.

Other uses: Another name for this plant was Poor Mans Weatherglass because the flowers remain closed in bad weather. Actually they only open for a few hours each day anyway and usually close by 3.00 p.m.

Anchusa officinalis

Alkanet

Native *Boraginaceae*

This species is widely grown in gardens and is often found as an escape. It was once commonly eaten as a potherb in France, though (like many members of the Borage family) it contains a number of toxic alkaloids. I really wouldn't advise using it, as there are plenty of other potherbs available. The blue flowers of the related Blue Alkanet (*A. azurea)* were once added to salads as a garnish.

Andromeda polifolia

Marsh Andromeda

Native evergreen shrub *Ericaceae*

Native Americans used the leaves of related species to make a tea. These were boiled for several minutes (longer boiling would release toxins). Some people caution against ingesting any *Andromeda* species, saying they are poisonous.

Angelica archangelica

Angelica

Introduced biennial *Apiaceae*

Angelica isn't native to Britain, though it is widely cultivated and often occurs as an escape. It is also naturalised locally and in ideal situations it can be quite abundant. As the specific name suggest it was once considered to have powerful, even magical properties. The characteristic odor and flavor of the plants is reminiscent of Juniper berries.

Caution: One must always be very careful about gathering any member of the , especially when they are not in flower, as a number of species are extremely poisonous. Young Angelica plants somewhat resemble the lethal Water Hemlocks (*Cicuta* species). Even the Angelicas are by no means completely harmless, in a few susceptible individuals their sap can cause photodermatitis and they may be toxic if eaten in large amounts.

Greens: The young spring leaves can be used in salads or as flavoring.

Stems: The immature flower stems can be cooked as a vegetable, though you will have to change the cooking water at least once to reduce their strong flavor. The candied, cooked stems were once a popular confection.

Drink: All parts of the plant can be used to make tea. This is quite good, but should probably be used in moderation. Oil from the seed has been used for flavoring gin and various liqueurs.

Medicine: Angelica tea is carminative, its antiseptic oil inhibits flatulence and aids digestion.

This tea is also a diaphoretic, tonic, expectorant and stomachic. It was once drunk in the belief it could counteract the effect of various poisons and give protection from diseases such as bubonic plague and malaria. At this point we pass from medicine to magic, as the plants were considered to be a panacea, useful for practically everything.

The Chinese *Angelica sinensis*, known as Dong Quai, is used to treat female complaints such as menstrual problems and is considered so effective it is sometimes called Women's Ginseng.

The leaves have been used externally as a poultice for wounds, blood poisoning, rheumatism, skin sores and aching muscles. Use caution as they can be irritating if left on the skin for too long.

Other uses: The aromatic dried leaves have been smoked with other herbs. Leaves and roots are a nice addition to potpourri. Angelica oil is used in perfumes.

Cultivation: Angelica may reach eight feet or more in height when flowering and makes a very striking specimen plant for the garden. Unfortunately it is a biennial and dies after flowering. It is easily grown from seed, though this is very short lived and must be planted as soon as it's ripe.

The plant likes rich, moist, woodland soil, with part shade. It self-seeds prolifically. I planted a single plant from a nursery in my garden and soon had more Angelica seedlings than I had room for. For all I know it's descendants are probably still there.

Related species:

A. sylvestris - Wild Angelica

This species is much more common than the above and the leaves can be used in the same ways. It isn't nearly as tasty, aromatic, or effective, but it is a lot easier to find.

Anthemis cotula

Stinking Chamomile

Native annual *Asteraceae*

This species is often common in southern England. It has a rather strong scent, but has been used for tea like Chamomile. The Corn Chamomile (*C. arvensis)* has also been used.

Anthriscus sylvestris

Cow Parsley

Native biennial *Apiaceae*

This common plant is a close relative of Garden Chervil and is sometimes known as Wild Chervil because of its somewhat similar flavor. As with all members of the you must be careful with identification (it flowers quite early).

Food: The young shoots and leaves can be eaten raw in salads and sandwiches and are quite popular in Japan. They can also be used as a culinary herb (add quite late in the cooking process, as they lose flavor is cooked for too long). The seeds can be used for flavoring.

Drink: Use the shoots, leaves and seeds to make tea.

Medicine: Cow Parsley greens were once commonly eaten in spring as a tonic to “cleanse” the blood after a winter on starchy stored foods. The plant is said to be a carminative, diuretic, diaphoretic and antiseptic, as well as a blood cleanser.

Cosmetics: The tea was used as a skin lotion.

Cultivation: Cow Parsley is easily grown from seed in most soil types. This should be sown as soon as it is ripe in late summer, simply scatter the seed in situ. In mild climates it may stay green all winter. It’s been suggested that selective breeding of the roots could produce a useful root crop.

Related species:

A. cerefolium - Chervil

This is the cultivated Chervil, which is sometimes found as an escape from cultivation. It can be used in much the same ways as above and is a much better food plant.

Anthoxanthum odoratum

Sweet Vernal Grass

Introduced Poaceae

This naturalised grass smells of new mown hay when dried. It has been used to make tea.

Aphanes arvensis

Parsley Piert

Syn *Alchemilla arvensis*

Native *Rosaceae*

This species can be found throughout most of Britain.

Food: Parsley Piert has been used as a pot herb, salad and pickle, though it is somewhat astringent.

Medicine: The common name means Parsley pierce stone and was given for the belief that the plant could help eliminate kidney stones. It was also used as a diuretic and demulcent.

Cultivation: The plant can be grown from seed and does well on poor rocky soil.

Apium graveolens

Wild Celery

Native biennial *Apiaceae*

This is true wild celery and is the ancestral form of garden celery, thouhg in many cases this isn't quite accurate. Though this is a native plant, the plants you find could well be descendents of garden celery, that have escaped cultivation and reverted to their wild form. It occurs naturally in coastal areas around Britain.

Caution: The familiar celery smell helps in identification, but be very careful as the family contains many poisonous plants. Actually wild celery itself is often thought to be poisonous, but it is normally safe for use as flavoring. It may become toxic when growing in heavily fertilized soil, as it can accumulate nitrates from the soil. This is the reason the green tops are rarely eaten (except sparingly).

Flavoring: The stems and leaves are useful in small amounts for flavoring soups, sauces and tea. They are too tough and strongly flavored to be used in salads, unless you have an even tougher palate. Celery seed is often ground to powder for use as a condiment.

Medicine: The plant has been used as a carminative and as a diuretic to treat kidney ailments. A traditional Japanese treatment for rheumatism is to eat lots of Celery.

Cultivation: Wild Celery is cultivated in China for use as flavoring. It is treated like garden Celery, grown from seed in moist soil and part shade.

Arabis species

Rock Cress

Native annuals, biennials *Brassicaceae*

The Rock Cresses occur naturally in cool northern and mountain areas. Several species are widely cultivated in gardens and may be found as escapes in unexpected places.

Greens: In cool weather the young plants can be used like Watercress (*Nasturtium*), as a tangy addition to salads, or as a potherb. They are rich in vitamin C. Like most members of the *Brassicaceae* they turn bitter in hot weather.

Perfume: The fragrant flowers of some species have been used in perfumes.

Animal food: The flowers are a good nectar source for bees and other insects.

Propagation: The Rock Cresses often find their way into rock gardens for their pretty flowers. Propagate by cutting, division or seed, in well-drained soil.

Related species: No species is poisonous, so any bearing palatable leaves can be used.

Arbutus unedo

Strawberry Tree

Naturalised tree *Ericaceae*

The Strawberry Tree is native to warmer climes than Britain and is only found wild in the mildest areas of southwest Britain and Ireland (where it might be native).

Fruit: The succulent red berries ripen in October and November. The botanist who named this species obviously didn't think much of them as the genus name translates as "eat one only". However when fully ripe (which needs warm weather) I find them to be quite delicious, with a kind of tropical fruit flavor (their texture is a bit gritty though). Maybe they don't ripen as well in Britain as they do elsewhere?

Cultivation: Strawberry tree can be propagated fairly easily from stratified seed. Hardwood cuttings can also be used (though they are somewhat temperamental), but layering is more reliable.

Arctium lappa, A. minus

Burdocks

Throughout *Asteraceae*

The Burdocks are common throughout Britain on waste ground and roadsides. They are true pioneer species and have followed Europeans all around the world. They are highly mobile because of their efficient seed dispersal mechanism, hooked seed capsules (burs) that cling to anything that passes by, whether furred, feathered or clothed. The burrs and the dock-like leaves are responsible for the common name.

Food: Though often despised as weeds, the Burdocks are exceptional wild food plants. They provide a variety of nutritious and tasty foods, are rugged and hardy, can be used without guilt (they are persistent weeds) and don't resemble any dangerous plants.

Root gathering: The most important food from the Burdock is the root. In Japan these are so highly regarded that they are commonly cultivated as a crop. The plants are biennial and only roots from first year plants are useful for food. These are quite easy to find, simply search for old dead plants that have flowered and then look nearby for the new rosettes. The roots are best gathered in mid summer, when they first reach a useful size (perhaps a foot long and a half inch in diameter). They grow much larger than this (3 to 4 feet), but these are often too woody to be palatable. The interior of older roots can still be useful, but aren't as good.

Collecting Burdock root isn't easy, as they are very well anchored. You can't just pull on the top to uproot it, as it will simply break off. You have to dig carefully and deeply to get unbroken roots.

Root preparation: The root is usually prepared by scraping off the tough outer skin, then chopping crosswise into very thin discs. It can then be eaten raw in salads, baked or boiled. If the flavor is too strong, boil for 10 minutes with baking soda, then change the cooking water and boil a further 10 minutes. In an emergency you can simply split the root lengthwise and eat the interior raw.

The roots were once commonly mixed with Dandelion root and other herbs to make a soft drink. They were also roasted as a coffee substitute.

Leaves: The very first spring leaves can be used as a salad, or potherb, as long as they are tender, but they aren't very good. I sometimes add a few of the smaller leaves to a green blender drink (See *Symphytum*).

Flower stalk: Perhaps the best food produced by the Burdock is the immature flower stalk. The bitter skin is peeled off and the tender interior is eaten raw in salads, or cooked as a vegetable.

Seed: Apparently the seed can be removed from the ripe burrs and sprouted like Alfalfa.

Medicine: Burdock root has a long history of medicinal use and was mentioned in the first modern English herbal, "The Leach book of Bald", which was written by Bald the monk in the 10th century. He recommended a poultice of the leaves for gout, rheumatism, sore joints, old wounds and leprosy. Consistently enough the plant is still used for these ailments, though the root is generally preferred.

The plant is most highly valued as a blood purifier, but can also be used as a diuretic, diaphoretic and laxative. The leaves, stems and roots can be blended in water as a drink, which can reduce blood sugar levels if taken regularly.

A poultice or lotion of leaves or roots can be used on burns, sprains, wounds and skin complaints such as ringworm and acne.

Hair treatment: A strong decoction of the leaves was thought to be beneficial for the hair and scalp.

Garden uses: Burdock is a beneficial plant for the soil, as its deeply penetrating roots aerate and break up compacted ground and extract nutrients from the subsoil. It is sometimes accused of depleting the soil of minerals, but such a statement is of dubious logic obviously if left alone it will die and release those minerals back into the same soil in an easily useable form. It is the person who removes the plant that robs the soil.

Cultivation: In Japan there are a number of cultivated varieties of *A. lappa*, with large, mild flavored roots, yet which retain much of their wild vigor. They are easily grown from seed, soaked overnight and planted in rich sunny soil. Once established they are little bothered by pests and are pretty much independent of the gardener, especially if mulched to conserve moisture. Their only drawback is that they take up a lot of space for a long time. For this reason they are best grown in a semiwild state, away from intensive vegetable or ornamental gardens (forest gardens or orchards are ideal).

Arctostaphylos uva ursi

Bearberry

North and Mountains *Ericaceae*

This low matlike shrub is quite common in the cool highlands of Scotland, becoming rarer into the north of England (on acid heathland) and then disappearing altogether.

Fruit: The dry, red berries are rich in carbohydrates and vitamin C, but are also rather seedy and astringent and not particularly tasty when raw. The berries stay on the plants well into winter and become more attractive when there is nothing else to eat. They get sweeter when cooked and are probably best mixed with tastier fruit, or boiled with a little milk (to reduce their astringency) and honey (to add sweetness). They can be used in pies and preserves and even fried.

Drink: The fruits can be boiled briefly for tea, or made into a lemonade-like drink. This is made by simmering the cleaned berries for 15 minutes in an equal volume of water. The cooked fruit is then crushed (or put in a blender) and the brew left to steep for 24 hours (or until it reaches the desired strength). This is then strained and served.

The leaves have occasionally been used for tea, but have strong medicinal properties so should be used in moderation.

Medicine: Bearberry leaves contain arbutin, the same chemical that gives the Cranberry (*Vaccinium*) its medicinal properties. Arbutin (also called ursin) passes through the kidneys unchanged and reacts with the urine to form a potent antiseptic (as a side effect it may turn the urine green). It is also diuretic, so Bearberry leaf tea is a useful treatment for urinary infections such as cystitis. They are also useful as an astringent.

Smoking: Native Americans smoked dried Bearberry leaves (alone or with other herbs such as Osier Dogwood *Cornus*) so often, that the plant became known as KinnickKinnick, which translates as “that which is smoked”.

For smoking the leaves are best gathered in summer, but they can be gathered year round in an ‘emergency’ (I can’t imagine what that might be, but then I don’t smoke). They are stripped of their woody stems and sun dried before use. Native Americans sometimes leached them in water to reduce their bitterness before drying. It has been said that retaining the smoke for a few seconds can bring about intoxication, as can smoking Bearberry and drinking alcohol at the same time. Probably neither of these practices is a good idea, as the plant is known to cause central nervous system depression.

Garden uses: Bearberry is sometimes grown as an evergreen groundcover, or to attract birds, bees and other wildlife. Established plants form a thick dense mat that is good for preventing erosion.

Related species include:

A. Alpina - Alpine Bearberry

Used as above. Its fruits are juicier and better flavored than Bearberry, but cooking still improves them. Unfortunately it is rare in Britain.

Arum maculatum

Cuckoo Pint

Native perennial *Araceae*

This beautiful wild plant is common over most of Britain, but it isn’t a very useful wild food because of its toxicity and the complexity of its preparation.

Caution: All parts of the Cuckoo Pint are toxic, as they contain small sharp crystals called raphides which pierce and irritate mucous membranes when swallowed. These give the plant an intensely acrid quality and if swallowed in sufficient quantity they can cause enough swelling to block the throat and cause death by asphyxiation.

Preparation: Though dangerously acrid when raw the tuberous starchy roots can be eaten if carefully prepared. Raphides are unaffected by heat so simple cooking doesn’t make them edible, but they can be broken down by prolonged drying. A related American species can be made edible by slicing the swollen root thinly (like Potato crisps) and leaving in a warm dry place for about six months. After this time it is edible and very palatable (if still acrid then leave it even longer). These dried sliced roots can be eaten as a snack like potato crisps, or ground to flour and mixed with an equal amount of wheat flour for use in baking. It might be worth experimenting with this species to see if this works. I haven’t bothered becauseI have no desire to destroy such an interesting plant.

Starch: The roots were once cultivated as a commercial source of laundry starch, however this is very irritating to the skin and this use was eventually abandoned.

Cultivation: Cuckoo Pint is a popular ornamental for wild gardens. It is easily grown from seed or cormlets (detach from the main plant), planted in a shady woodland soil which is rich in humus, moist and slightly acid.

Armillaria mellea

Honey fungus

Native Fungus

The Honey Fungus is dreaded by gardeners because it can be a lethal parasite on a wide range of garden trees and shrubs (it can also live on decaying wood and be harmless). It can often be found growing in large clusters on living or dead wood.

The honey fungus may be a potential killer in the garden, but it is welcome in the kitchen, as it is a very good edible mushroom. The smell of the fresh mushroom isn't very nice and the stalks can be tough, but the newly emerged caps are very good fried, baked, in soups, etc. Some people experience stomach upset after eating it, so be cautious the first time you try it (and don't eat it raw).

Armoracia rusticana

Horseradish

Throughout *Brassicaceae*

The Horseradish plant resembles a Broadleaf Dock (*Rumex*) in appearance, but is easily identified by the unmistakable pungency of its root. Horseradish is native to Britain, but it is also widely cultivated and is often found as an escape, or relic of cultivation. The wild plant is essentially identical to the cultivated kind.

Interestingly an intact Horseradish root has no pungency at all, the acrid oil that gives it its characteristic flavor only appears when the root is damaged. Damage (such as grating) ruptures the cell walls, allowing an enzyme to react with a glycoside to form Mustard oil (allyl isothiocyanate). Put simply this means this bland root quickly develops enough pungency to take your breath away (literally). Like most plants that produce mustard oil, Horseradish irritates the kidneys and mucous membranes and is toxic to some degree. However it is hard to eat enough to have any serious deleterious effect.

Gathering: The roots can be dug almost any time of year, though they are at their best while dormant, from late fall until new growth appears in early spring. In loose soil the roots of older plants may grow three feet in length, though smaller roots are of better quality for food. They should be dug from the ground carefully as they are brittle and break easily. Normally you just dig as much as you can easily and leave the remaining root to regenerate.

In mild areas the roots may be gathered as needed through the winter. You can also dig the roots and store them in damp sand.

Uses: Horseradish is an acquired taste. A bite of the raw root may be the hottest thing you have ever experienced and this extreme pungency limits its use as food. It is far from insignificant however, as it is

used to make the famous Horseradish sauce, as well as salad dressings. Try making “Horseradish Bread” instead of garlic bread.

If you dislike the pungency of the raw root, try cooking it. This destroys the acrid oil, leaving a relatively bland root vegetable. This is a nice addition to soup.

Horseradish sauce: The easiest way to make Horseradish sauce is to puree the root in a blender with enough wine vinegar to form a paste. You can grate the root by hand, but you will probably have to do it outside to minimize fume inhalation. Season the grated root with salt and sugar. It will store for up to a month in the refrigerator. For a more elaborate recipe add cream, yogurt, mustard, pepper and / or lemon juice.

Leaves: The tender, new spring leaves can be added to salads, or cooked with other greens as a potherb. These are so good that the roots have actually been forced indoors like chicory (*Cichorium*) to provide winter greens.

Medicine: The whole plant is said to contain an antibiotic. The grated root has been used as a rubefacient, poultice to treat frostbite, rheumatism and muscle pain. Care must be taken however, as the acrid root can irritate the skin if left on for too long. Keep the poultice on the skin only until it starts to feel hot and then remove it.

A simple treatment to eliminate mucous in coughs and catarrh is to grate the root into a bowl, mix with honey and let it stand overnight. The following day drain off the syrup from the bottom of the bowl and take one teaspoon three times daily. Alternatively you can soak the grated root in honey for a few hours and then eat it.

The root is said to aid indigestion and this is probably how Horseradish sauce originated.

Tooth cleaner: I have read that the roots were once chewed to clean the teeth, though I have yet to meet anyone who could actually chew it for that long.

Cultivation: Horseradish doesn’t usually set seed, so it is propagated vegetatively. This is very easy, as any fragment of root will grow into a new plant. Usually when a field is dug, small roots are trimmed from the large roots and replanted, while the large roots are sold. It will grow under almost any conditions, but prefers a deep, rich, moist soil with full sun and a fairly cool climate. Mulching is helpful to keep down weeds and hold in moisture, but the plant hardly needs any encouragement.

The biggest problem with Horseradish is that it is very persistent once established and not easy to remove. It isn’t an invasive plant, but any fragment of root spread around inadvertently will grow, so it often pops up in unexpected places. The tiniest rootlet left a foot deep, upside down, has a way of turning into a new plant.

The simplest solution to this problem is to plant it in a remote place where it can be left to do as it will. You can also confine it in some kind of container. The latter also makes harvesting easy, simply dig up the container and dump it out on the ground.

Horticultural use: Horseradish is supposed to be a traditional garden companion for potato (it is said to deter the potato blister beetle and benefit from the presence of potato). However planting them together doesn’t seem like a very good idea, as in digging up the potatoes you would inevitably chop up the roots and spread them around.

Artemisia absinthium

Wormwood

Native perennial *Asteraceae*

Wormwood is quite common in England on roadsides and waste ground. It has been used as a culinary flavoring for over 4000 years, which is rather surprising when you consider that it has an intensely bitter taste and contains a toxic oil called thujone (which has potent medicinal properties). It was usually eaten with greasy meats such as duck or goose.

Absinthe: Wormwood was once used for flavoring the potent liqueur absinthe. This is made by macerating Wormwood leaves in alcohol, with Fennel, Angelica, Calamus, Dittany and other herbs. It is said to have been invented in Switzerland by a Dr Pierre Ordinaire as a medicinal elixir for treating stomach ailments.

The ingenious doctor created a unique drink (the original pre-ban absinthe is said to be one of the most extraordinary alcoholic beverages ever created) and it soon became popular as a recreational drink. Unlike most alcoholic drinks, which dull the mind, good absinthe is said to leave the mind clear and alert. Perhaps this is why it was so beloved by bohemian artists and poets, such as Rimbaud, Baudelaire, Picasso and Van Gogh (this association also gives it a glamour that few drinks can rival).

Absinthe eventually gained the kind of notoriety today associated with drugs like heroin or cocaine. It was once called “madness in a bottle” and was accused of causing mental deterioration, hallucinations, convulsions, brain damage and moral depravity. Thujone from the Wormwood was said to be the problem and it was eventually banned in most countries. In reality the amount of thujone in absinthe is very small and is not a problem in any way. Absinthe is actually no more toxic than other drinks with a high alcohol content.

Due to changes in E.U. regulations absinthe is no longer illegal in Europe and is being made there once again (though not as well as it was).

Medicine - As the common name suggests, Wormwood was once commonly used as a vermifuge, to rid the body of internal parasites, but it isn’t very pleasant or safe and shouldn’t be taken internally in medicinal quantities. It has also been used as a diaphoretic, a stomachic and a bitter tonic to stimulate the appetite (liqueurs such as vermouth are intended as aperitifs).

French soldiers in Algeria drank Absinthe to prevent malaria and it does actually have some beneficial effect. Interestingly a related Chinese species *A. annua* is the source of one of the most important new anti-malaria drugs.Wormwood has been used externally as an antiseptic wash, or poultice, for wounds, burns, skin sores, sprains, insect bites and to kill parasites.

Other uses - A strong decoction of the tops and leaves has been used as a hair rinse, a disinfectant, in herbal baths and as an insecticidal wash to kill fleas on animals. The dried plant is used in potpourri, sweat lodges, as a strewing herb. It was once stored with food and clothing to repel insects (and evil spirits).

Cultivation - Wormwood is grown from root division or seed. It thrives in poor soils and secretes absinthin which inhibits the growth of some neighboring plants. Gardeners have used a tea of the tops as a repellant for Carrot flies, slugs, aphids, cabbage worms and flies. It is sometimes planted as a border around the garden, though it should be confined to prevent it wandering.

Artemisia vulgaris

Mugwort

Native perennial *Asteraceae*

This species is common in England, but gets rare further north. Wormwood lacks the toxic oil found in Wormwood, but is still very bitter. It is slightly better as flavoring than Wormwood and is more commonly used, but it could hardly be described as good. In Japan it is more esteemed and several cultivars are grown for food purposes. It has been used in soups, sauces and egg dishes. It was once a popular flavoring for beer, which is why it received the name Mugwort.

Mugwort is important to Chinese herbalists, as it is used in moxibustion, a therapy related to acupuncture.

Other uses:The leaves and flowering tops have been used like Wormwood as an insect repellant, strewing herb, hair wash, potpourri etc. The dead dried leaves make good tinder for starting fires without matches.

Cultivation: As for Wormwood.

Asarum europaeum

Asarabacca

Native perennial Aristolochiaceae

Food: This rare plant was once used as a substitute for ginger, but it contains asarone which is toxic (see *Acorus calamus*).

Cultivation: This species can be grown from seed or division in moist, woodland soil.

Ascophyllum nodosum

Knotted Wrack

North Atlantic seaweed *Phaeophyta*

Food: This species is often common on the rocky shore below the high tide mark and can be gathered at low tide (unlike most other seaweeds). The tenderest parts of the fronds have been cooked and eaten and can be quite good. Knotted Wrack is very often used to line fire pits for steaming various other foods.

The fronds are very rich in minerals and have been dried and powdered as a nutritional supplement.

Chemicals: Knotted Wrack has been used as a source of soda ash, mannitol, alginates and iodine.

Fertilizer: The fronds are good garden fertilizer and generally the brown seaweeds are the best for this, because they don't break down as quickly as the others. See Kelp (*Alaria*) for more on this use.

Asparagus officinalis

Wild Asparagus

Native perennial *Liliaceae*

Asparagus is native to coastal areas of the southeast and is quite common there. It gets rarer as you go north and inland, but can be found almost anywhere as an escape from cultivation (the berries are eaten by birds so it is commonly bird sown). Wild seedlings are not usually as succulent as their pampered cousins, but are still good food.

Nutrients: Asparagus is rich in minerals including copper, iron, magnesium, phosphorus and sulfur.

Gathering: The best time to locate Asparagus is in summer, when the large feathery ferns are highly visible. Return the following spring and harvest by cutting the shoots off at ground level with a sharp knife. They are best cooked as soon as possible after cutting.

Uses: The tender shoots can be eaten raw in salads and are quite good. However the raw plant has been known to cause dermatitis in a few individuals, so be cautious about eating it raw. Most often the shoots are steamed for a few minutes and eaten with olive oil, butter or various sauces. They can also be used in soups and pies.

Medicine: Asparagus has long had a reputation as a diuretic. The raw plant is most potent in this regard, though the cooked plant can also be used. It has been used to treat water retention, though it shouldn't be eaten if there is any inflammation of the urinary tract, as it is mildly irritating. It may also give the urine a strange smell. Asparagus is also a good source of fiber to alleviate constipation.

Animal food: In parts of Russia Asparagus is so common in the wild it has been used as animal forage.

Ornament: The feathery stems are great for use in fresh or dried floral arrangements.

Cultivation: With its delicate feathery leaves and bright red berries, Asparagus is a very attractive plant and isn't out of place in the ornamental garden. It likes full sun and lots of space to spread its roots (these may travel six feet in all directions). Don't plant it too near to trees or other plants. Asparagus is usually grown from 1 to 2 year old roots and these are available in garden centers every spring. These are

planted in an 18-inch deep hole, in deep rich soil. This hole is slowly filled up over the following weeks, as the plant grows. It can also be grown from seed quite easily, but this is slower. It is very drought tolerant

An Asparagus bed should be carefully dug and fertilized, as the plants will remain there for many years. They like a year round mulch and a feed of manure once or twice a year. Once established it self-seeds enthusiastically with the aid of birds.

Aster tripolium

Sea Aster

Native perennial *Asteraceae*

Sea Aster is common in coastal areas around most of Britain.

Greens: The young leaves can be used in salads, as a pot herb or pickled and are quite good when young. They get tough as they mature however.

Medicine: This species is a very good wound herb and probably contain an antibiotic in its leaves.

Cultivation: Sea Aster was once widely grown as an ornamental. It can be propagated from ripe seed (best sown in autumn), cuttings or division and prefers well-drained, sunny soil.

Astragalus glycyphyllos

Wild Licorice

Native perennial *Fabaceae*

This species is related to Licorice, though it is not in the same (*Glycyrrhiza*) genus. Its sweet flavored root can be used as flavoring in the same way, but it isn't as good. It isn't very common in the wild.

Atriplex hastate

Atriplex patula

Orach

Native annuals *Chenopodiaceae*

These common coastal plants resemble their cousin the Lambs Quarters (*Chenopodium*) and can be used in many of the same ways. They are adapted to growing in saline soils and may actually excrete excess salt through their leaves (this sometimes turns them white).

Caution: Like many members of the *Chenopodiaceae* the leaves contain mildly poisonous oxalic acid. They may also accumulate toxic nitrates from the soil. For these reasons the plants should probably be eaten in moderation (as should the related spinach).

Greens: The young plants and growing shoots can be eaten raw or cooked any time they are available. They are very salty, so wash them before use. In some cases this will not be enough and you will need to change the cooking water at some point, to make them palatable. They can also be added to foods as a source of salt.

Seed: *Atriplex* seed contains about 12% protein and was gathered and used like that of Amaranth (see *Amaranthus*).

Cultivation: The related garden Orach (*A. hortensis*) is cultivated as a pot herb and is available in red or green varieties. It prefers rich soils, but will grow in quite saline salty ones. It has been investigated as a possible crop for irrigation with seawater. It is sometimes found as an escape from cultivation.

Avena fatua

Wild Oats

Native annual *Poaceae*

The specific name fatua means useless, presumably because it isn't as useful as the cultivated Oats (*A. sativa*). It is equally nutritious however. It is a common agricultural weed.

Seed: Oats are among the most nutritious of all cereal grains. They contain about 14% protein, 7% fat, 60% carbohydrates and large amounts of vitamins and minerals, including iron, phosphorus, potassium and magnesium. It is possible to use the grain for porridge, pancakes and baking. Prepare it in the same way as Lyme Grass (*Elymus*).

Drink: Tea has probably been made out of almost every imaginable plant material over the years, but Oat straw tea sounds particularly unappetizing. Actually it is surprisingly pleasant and quite nutritious. Prepare it by simmering the straw for a few minutes, then strain and serve with lemon and honey. It is said to be a useful detoxifying drink.

Medicine: Oats have been used as a soothing poultice for insect bites and chicken pox. Cooked oatmeal is of considerable medicinal value as a source of fiber to relieve constipation. It has been used as a nutritive tonic and is even said to be an aphrodisiac. Oat bran became very fashionable for a while, for its ability to reduce blood cholesterol levels.

Other uses: Oatmeal has been used as a dry "shampoo" to remove grease from the hair and skin. The straw has been used for packing material and wallboard.

Cultivation: This species is a very serious weed of commercial agriculture. Oats prefer cool, moist, growing conditions and are commonly grown in areas too cold for wheat. The seed is planted in early spring and matures in about 90 days.

Related species:

A. barbata Bearded Oats

A. sativa Cultivated Oat

Used as above.

Barbarea vulgaris

Wintercress

Native biennial *Brassicaceae*

This species gets its common name because it is very hardy and in milder areas it often remains green throughout the winter. It is common in most of England, on waste ground, roadsides and in gardens. It is rich in vitamins and other nutrients.

Greens: Wintercress tastes very much like Watercress (*Nasturtium*) and can be used in the same ways, in salads, soups and sandwiches. It turns bitter and pungent when it flowers and in hot weather. It is a fine potherb, though it may be necessary to change the cooking water at least once, to reduce its bitterness to a palatable level. It is sometimes mixed with bland potherbs to add flavor. The leaves shrink a lot in cooking, so you need more than you think.

Flower buds: The unopened flower buds, gathered while still tightly furled, can be eaten raw, or cooked like miniature Broccoli. Again it may be necessary to change the cooking water once or twice to reduce their strong flavor.

Animal food: The seeds are important food for many wild birds and are sometimes added to wild birdseed mixtures.

Cultivation: This biennial is easily raised from seed, in average garden soil. It can be grown as a cut and come again salad crop. It self-sows readily and can become a weed if not kept under control. I consider it an essential winter salad garden plant. It tolerates light shade.

Related species include:

B. verna - Early Wintercress

Use as above.

Bellis perennis

Daisy

Native perennial *Asteraceae*

This is the familiar daisy of lawns throughout Britain.

Food: The tender young leaves can be added to salads (as can the flowers) or used as a pot herb. Older leaves are acrid and unpleasant. The flower buds can be pickled, or added to salads.

Medicine: Daisy was once known as Bruisewort because it was used as a poultice or ointment for bruises and wounds.

Cultivation: What is a lawn without Daisies? It can be grown from seed and will self-sow once established.

Berberis vulgaris

Common Barberry

East *Berberidaceae*

This species is native to Britain, but isn't very common. It is also widely cultivated so the plants you find could well be escapes from cultivation. Barberry has been largely eradicated in grain growing areas as it is an alternate host for the Black Stem Rust Fungus (*Pucinia graminis*), which attacks Wheat and other cereal grains.

Caution: Only the ripe fruits are edible, the rest of the plant contains the alkaloid berberine and is somewhat toxic.

Fruit: The sour red berries somewhat resemble Cranberries (*Vaccinium*) and can be used in much the same ways, in sauces, preserves and pickles. It is best to remove the hard seeds before use. They are rich in pectin and are often added to fruit jellies to help them set. Their juice can be used as a substitute for lemon juice. A few berries are a nice addition to salads. Native Americans crushed the berries of related species into cakes and dried them for winter use.

Drink: The berries make a pleasantly sour tea, which is traditionally sweetened with orange juice and honey.

Greens: The tender spring growth was eaten as a snack. Older leaves have been used for tea.

Medicine: Barberry bark contains berberine which stimulates the liver. It was once widely used in medicine to treat jaundice, diarrhea, menstrual pains, digestive problems, to reduce blood pressure and as an antiseptic. For medicinal use the bark is gathered while the plants are dormant.

Cosmetics: A tea of the bark was used as an eyewash, skin lotion and a beautifying hair rinse (especially for blonde hair).

Cultivation: Barberries have been cultivated as a fruit crop. They can be propagated from cuttings, suckers or seed (plant the ripe whole berries) and prefer well-drained soil with full sun or part shade. They may grow to ten feet in height and with their formidable spines and vigorous growth, they can be a useful hedge plant.

Beta vulgaris

Sea Beet

Native biennial *Chenopodiaceae*

Sea beet (or Wild beet) is quite common in coastal areas of southern England, Wales and Ireland. The more domesticated form may found as an escape from cultivation almost anywhere.

Greens: This is the wild form of the cultivated beet. The succulent leaves can be eaten any time they are tender and may be gathered almost year round in milder areas. They are good raw or cooked, though older leaves may have tough midribs (strip them from the leaves).

The roots are also edible and can be quite good, though they don't get very big.

Cultivation: Wild beet may be either perennial or biennial. It is grown from seed in the same way as chard and garden beet.

Betula pendula

Silver Birch

Betula pubescens

Downy Birch

Native trees *Betulaceae*

Both of these species are common throughout Britain.

Inner bark: In late winter the inner bark is full of simple sugars and has been eaten raw, dried and ground to flour and cooked like spaghetti. It has also been used to make tea. It goes without saying you should never strip bark off a tree for food unless you are in dire need and then you should only take it from the branches. Of course if a tree is to be cut down anyway you may as well try some of it.

Shoots: The leaf buds and tiny catkins can be eaten as a snack to prevent thirst when walking, added to salads, or used for tea.

Syrup: In the highlands the trees are still occasionally tapped like Maples (see *Acer*) and the sap used for sugar, or fermented into wine. This sap can also be used as a source of clean drinking water (it was once considered a very beneficial drink).

Wood: Birch wood is strong and nicely grained, but it rots quickly, isn't usually available in large pieces and is hard to season except by kiln drying. It is used for cabinetmaking, hoops for barrels, turning, carving, veneer, pulpwood and especially for plywood and laminating. In Scotland, where other trees are scarce, Birch has been used for almost everything. It is coppiced on a 15 to 25 year rotation.

Brooms: Tightly bound bundles of the springy twigs make good brooms known as besoms (they are the familiar broomsticks of Witches). They are coppiced on a 2 to 5 year rotation for this.

Thatch: The feathery twigs have also been used as a rather unlikely (but no doubt very picturesque) thatching material for roofs.

Firewood: The wood is pretty good fuel giving about 25 million Btu per cord. The small branches and twigs make good kindling and bark is good tinder for fire starting (it will even burn after being immersed in water!) Native Americans used bundles of the bark for torches. Also makes good charcoal.

Bark: The smooth bark is tough, waterproof and very durable. When the trees were larger and more plentiful, the bark was used for roofing shingles, shoes, baskets, etc. The bark is easiest to peel from the trees in late winter, when the sap is running.

Cultivation: Birches are fast growing trees, but fairly short lived, reaching maturity in about one hundred years. They tolerate most soils and are propagated from seed (sown when ripe in late summer or stratified at 4°C for two months). It's often possible to transplant some of the many seedlings found around mature trees (which will otherwise die).

Horticultural uses: Birch leaves are a good addition to compost piles and the piles are said to work better if placed under the trees.

Fertilizer: Betula species live in association with actinomycete bacteria, which fix atmospheric nitrogen and an acre of trees may fix over 200 pounds of nitrogen annually (they are an important component in maintaining forest soil fertility).

Boletus edulis

Cep

Native Fungus

This is one of the most highly esteemed of all edible fungi (and one of the most prized of all foods). With its broad stem, smooth brown cap and pores instead of gills, it is a beautiful and fairly distinctive mushroom, with no seriously poisonous look-alikes (in fact many similar species are edible).

Food; Ceps are best gathered as soon as they reach full size. As they get older they often become infested with insects, so check all specimens carefully.

The cep is outstanding in every way, roasted, sautéed, in soups and in pasta sauce. It is even good raw, but can occasionally cause stomach upset when eaten in this way.

Borago officinalis

Borage

Escape *Boraginaceae*

Borage is widely cultivated in gardens and canbe found locally as an escape. The flowers are added to salads. The leaves have a slight cucumber flavor and are eaten, but I don't consider them to be very good.

Brassica nigra

Black Mustard

Native annual *Brassicaceae*

This relatively small and uninteresting looking plant has an impressive number of uses. It can be found almost anywhere, either as a native plant, or as an escape from cultivation.

Caution: The pungency of Black Mustard (and other plants of the *Brassicaceae*) is due to acrid mustard oil, which may irritate the kidneys if taken in quantity. For this reason condiments such as mustard and Horseradish should be used in moderation. This is how most people prefer them anyway.

Prepared mustard: The condiment known as mustard is easy to make. Start by browning a quantity of wheat flour in an oven or pan and then mix it with an equal amount of ground Mustard seed (mustard flour). This is then moistened with a little wine or vinegar and made into a paste. Sweeten with honey if desired. Many other herbs and spices can also be added.

Seed gathering: Cut the whole plants as the first seeds ripen, pile them on paper (or put in a clean paper grocery sack) and leave to dry. When the pods are thoroughly dry, crush them to release their seed and then winnow to clean away the chaff.

Seed uses: Grind the dry seeds to a fine powder in a food mill, food chopper or pestle and mortar. This can be used in soups, sauces and salad dressings, or in any recipe calling for mustard flour.

The seed can be sprouted like Alfalfa (See *Medicago*) or Peppergrass (See *Lepidium*). These wholesome sprouts are good in salads and sandwiches.

Greens: The leaves and unopened flower buds, can be used in much the same ways as those of Wintercress (see *Barbarea*) and like them are only palatable in cool weather. The youngest leaves are

good in salads, but older leaves need cooking and you may have to change the cooking water to reduce their strong flavor. The yellow flowers have been added to salads for their color and pungent taste.

Cultivation: Because of its value as a condiment, Black Mustard is a minor crop plant. It is easily grown from seed and does well in most soil types. Though *Brassica* species are toxic to most insects, several butterfly species have become resistant to mustard oil and are actually attracted by it. These creatures live almost solely on plants of this family and are serious pests for growers.

Poison gas: I'm not advocating that any one try making this, I just wanted to mention that the actively pungent ingredient in mustard (allyl isothiocyanate) was produced synthetically in World War One for use as a weapon (it was known as mustard gas). This produces intense blistering, both externally and internally and was responsible for thousands of horrible deaths during the battle of Ypres.

Green manure: The Mustards are great green manure plants. Hardy and fast growing, they accumulate calcium, iron and sulfur and produce large amounts of organic matter in a short time. Dig them into the soil before they set seed, otherwise they can become weeds (they are often a pest to farmers). The plants also provide nectar for bees, attract predatory insects and may act as a trap crop, diverting pests away from crop *Brassicas*.

The main drawback to using any member of the Cabbage family as green manure is that they can't be used in rotation with any of the *Brassica* crops (Kale, Broccoli, Cabbage or Cauliflower). This is because they are susceptible to the same pests and diseases.

Pollution control: A novel potential use of the plant is to remove selenium from the soil. The plant (and some other *Brassica* species) has an affinity for selenium, which is chemically quite similar to sulfur. An acre of Mustard may remove up to five pounds of selenium from the soil in a year (if cut repeatedly).

Related Species:

Many *Brassica* species can be used as above, including:

B. hirta – White Mustard Syn *B. alba* or *Sinapis alba*

The seeds of this species are also used to make the condiment we call mustard (use as above). This is milder than that made from the seeds of Black or Brown Mustard. It is commonly grown as a green manure plant and can be found as an escape from cultivation.

Brassica napus

Rape

This species is native, but is also widely cultivated on farms to earn European Union subsidies (it often colours fields yellow). It is often found as an escape from cultivation. Rape was one of the first widely grow genetically modified crops, which raises the question of whether these escapees contain a degree of genetic modification and whether the native plants now do also. It is grown for animal feed and as a source of the cooking oil known as Canola oil.

Oil: Rape may produce 900 pounds of oil per acre in cool climates, which is more than any other common temperate zone crop. This oil is generally used for food, but it also has other uses.

Diesel fuel: Rapeseed oil can be used as diesel fuel, though it is more valuable for food use than as a fuel. Sometimes it can be used for both purposes though, as quite a few people run their vehicles on used cooking oil from restaurants.

Rudolf Diesel designed his engine to run on vegetable oil, but this doesn't work in modern engines because it is too viscous. It will work if the oil is heated to reduce its viscosity, but this means modifying the engine. The modifications basically consist of installing a second fuel tank and a system for heating the oil (using heat from the engine). Such a system works well, but the car must be started on conventional diesel fuel (or biodiesel) and idled for a while before stopping, to keep the fuel system clean.

You can use vegetable oil without modifying the engine, by thinning it with kerosene in the proportion of 1 part kerosene to 3 parts oil.

Biodiesel: Probably the best way to run an engine on vegetable oil is by turning it into biodiesel, which modifies the oil instead of the engine. Most vegetable oils are triglycerides, which consist of a glycerine molecule, with three esters attached. Making biodiesel consists of replacing the glycerine with alcohol, by a process called transesterification. This is simpler than it sounds and I will describe it here, but can be quite dangerous (sodium and potassium hydroxides are very caustic) and there are several possible variations in the process. For these reasons I don't recommend that you try it without further study (unless of course you are reading this after the collapse of civilization as we knew it, in which case good luck!)

The alcohol can be methanol or ethanol and is used in the proportion of 1 part alcohol to 4 parts oil. Sodium hydroxide (lye) or potassium hydroxide is used as a catalyst to initiate the chemical reaction. Any future Mad Max might be interested to know that the alcohol could be made by fermenting almost any sugar or starch. The sodium hydroxide could be made from wood ashes.

Making biodiesel: The first step is to thoroughly mix the sodium hydroxide with the methanol (use 3.5 grams per liter) to make sodium methoxide. The next step is to mix the sodium methoxide with the vegetable oil, in the proportion of 1 liter of sodium methoxide to 5 liters of oil. This is stirred for 15 minutes and then left to sit for a minimum of 8 hours. During this period the glycerine produced will settle to the bottom of the container. After this time there will be an obvious difference between the layer of biodiesel on top and the layer of glycerine on the bottom. The two must be separated very carefully, or they will mix again. The simplest way to do this is to make it in a container with a stopcock at the bottom (this allows you to simply drain off the glycerine). Finally the biodiesel is filtered to remove any particles.

Obviously the growing of vegetable oil for motor fuel is an idea with limited potential. To run the average family car for its 10000 mile yearly average would take 4 acres of land. Perhaps we take petrol too much for granted.

Soap: The glycerine produced making biodiesel can be used to make soap, if impurities are removed.

Industrial chemicals: Rapeseed is also rich in erucic acid, an important industrial chemical that is used for making plastics. It is also added to lubricants to improve their efficiency under high pressure and heat.

Related species:

B. rapa ssp campestris - Bargemans Cabbage *Syn B. campestris*

Used as above.

Brassica oleracea

Wild Cabbage

Native biennial *Brassicaceae*

This plant is the ancestor of a number of very important temperate zone crops, including Cabbage, Kale, Broccoli, Brussels Sprouts and Kohlrabi. It is native to Britain on calcareous sea cliffs, mostly on the south coast, but is rare. It is much more commonly found as an escape from cultivation. Even many supposed native plants are probably garden escapees, reverted back to their wild form.

Food: The leaves of this species are thicker and fleshier than those of the related Mustards. In spring the young leaves make a fine salad or pot herb. They can be used until they get too tough to be palatable, though as they get older you may have to change the cooking water at least once.

The flower buds, seeds and green seed pods can be used like those of Wintercress (see Barbarea).

Cultivation: This is pretty much the same as for the cultivated Brassicas.

Bunias orientalis

Turkish Rocket

Introduced *Brassicaceae*

This species isn't very common in the wild, but is now being grown as a perennial vegetable. The mustard flavored young leaves can be used as a salad. Older leaves are good as a potherb. The unopened flower heads can be used like broccoli.

Turkish rocket is easy to grow from seed and even easier to grow from root cuttings. Just cut up the roots and put them in the ground and they will grow.

Bunium bulbocastanum

Great Pignut

Native *Apiaceae*

This species is only found in a few counties around Cambridgeshire. It has been used like the Pignut, but is too rare to use (and digging the tuber would kill the plant). It is fairly easy to grow from seed and deserves to be more widely grown as a perennial vegetable.

The leaves are good raw in salads. The seed can be used as a flavoring. The swollen root (the pignut) is good cooked as a vegetable. It is at its best in winter.

Butomus umbellatus

Flowering Rush

Native perennial *Butomaceae*

Flowering Rush is found throughout the warmer parts of England, but is never very common because it is confined to ponds and dikes.

The dormant bulb of this aquatic species is acrid when raw but can be eaten if cooked. It has been cooked, dried and made into flour for baking. It is not very good and not very common, so shouldn't be used.

Cultivation: This plant is quite pretty and is quite often cultivated around ponds and in wetlands. Propagate from seed or division.

Cakile maritima

Sea Rocket

Native annual *Brassicaceae*

This species is found along beaches and sand dunes all around Britain. It isn't uncommon but should only be used for food when very abundant, as plants which grow on beaches face very adverse conditions, drought, seawater, salt, dogs, drying winds and feet and don't need any more problems.

Leaves: The succulent mustard flavored young leaves are a very nice addition to salads, though some people consider them rather strongly flavored. The tender growing tips of older plants can be used in salads, while tougher parts may be cooked as a pot herb, added to soups, or even pickled (if their flavor is too strong change the cooking water, or mix them with other greens). The flowers and immature seed pods can be used in the same ways.

Seed: The immature seeds have been added to salads, or pickled like those of the Nasturtium.

Cultivation: This annual species can be grown from seed in well-drained soils. It is adapted to grow on fast draining sandy soils and has a wide spreading root network which is useful for stabilising sand dunes and loose soil. It gradually enriches the soil with humus, thus enabling other species to get established.

Calamintha sylvatica

Common Calamint

Native perennial *Lamiaceae*

This species is quite common on calcareous soils in the south of England and Wales. It was once widely gathered for use as a culinary herb like Marjoram. The tea can be drunk for pleasure, or for coughs.

Related species

C. ascendens - Common Calamint

C. nepeta - Lesser Calamint

These species might be used in the same ways

Calla palustris

Wild Calla

Native perennial *Araceae*

This aquatic species is found all around the northern hemisphere and is probably native to Britain. It is found in swamps and shallow water, but is not very common.

Caution: The entire plant contains calcium oxalate crystals and is poisonous unless properly prepared. Don't confuse the name with the Marsh Marigold *Caltha palustris*, which is also poisonous.

Root: The stout acrid root can apparently be made edible by extended drying, in the same way as the related Cuckoo Pint (*Arum*) and it was once used to make flour for baking. Like that plant it really isn't worth bothering with, except in extreme circumstances.

Cultivation: This species is attractive enough to have been grown as an ornamental. Propagate from seed (sown when ripe), division or cuttings, in shallow ponds, or anywhere there is a few inches of water.

Calluna vulgaris

Heather

Native shrub *Ericaceae*

This species is found on moors, heaths and woodland throughout Britain. It is often a dominant species on impoverished moorland, its flowers often giving them a purple color in autumn. Heather was once an important resource for people of the Scottish highlands and northern hills and provided for many of their daily needs.

Drink: The flowers have been used to make tea (3 teaspoons to a cup of boiling water). They have also been used like Hops for brewing beer and mead.

Mattresses: The branches were set in a wooden frame almost upright, to give most resilience.

Brooms: The branches were used for brooms (the generic name refers to this). These were made in much the same way as those of birch twigs.

Thatching: The plants were once an important roofing material in the highlands and some houses still have their thatch of heather branches.

Animal food: Heather provides food for sheep and deer. It is an important source of nectar for bees and they make a distinctive honey from it. Beekeepers often transport their hives up into the hills when heather is flowering.

Other uses: It was also used for basket weaving, , packing material, cordage, pegs, binding plaster walls, pan scrubbers and for fuel.

Cultivation: Heathers are often cultivated in rock gardens. Propagate from cuttings or division in acid soils. Heather has a symbiotic relationship with a nitrogen fixing mycorrhizal fungi which enables it to live on very poor soils.

Caltha palustris

Marsh Marigold

Native perennial *Ranunculaceae*

This attractive spring flower is found in marshes, ditches and wet soils throughout Britain, though it is getting scarce in many places.

Caution: Like many members of the Buttercup family, the Marsh Marigold contains an acrid substance called protoanemonin, which makes it toxic when raw. Heat destroys this acridity however and the plant can be used as a potherb if thoroughly cooked.

Potherb: This was a favorite potherb of American wild food guru Euell Gibbons. Gather the young spring shoots and change the cooking water at least twice to reduce their strong flavor. You might also mix the cooked potherb with blander greens such as Nettles (*Urtica*).

Warts: The caustic juice has been used to remove warts.

Cultivation: This beautiful plant is occasionally planted as an ornamental in wet soils. It can be propagated from seed or division and prefers poorly drained shady soil.

Calvatia gigantea

Giant Puffball

Native Fungus

The Giant Puffball may be found in fields and open woods, though it isn't particularly common.

Puffballs are very good when young (they will be solid and white throughout) and are often simply sliced and fried (the slices are sometimes dipped in egg batter first). They can also be chopped into cubes and used in soup. If the skin is tough it should be peeled off before cooking.

Old puffballs have been used as tinder for starting fires and to stop bleeding. When I first found one as a kid I thought it was an old decomposing foam rubber ball (it was far past the stage of edibility).

Calystegia sepium

Bindweed

Syn *Convolvolus sepium*

Perennial *Convolvolaceae*

This species is not native, but is now quite common throughout most of Britain (though rarer in Scotland).

Food: There are reports that the stems and roots have been eaten in Asia. I'm not too sure about this, but there are no references to it being poisonous so you might want to experiment.

Cordage: The long twining stems have been used as emergency cord and can even be tied in a knot.

Cultivation: The flowers of Bindweed are quite pretty and several related species are grown as ornamentals. In contrast this aggressive perennial is one of the most pernicious weeds the gardener may face. It is very difficult to eradicate once established, because any fragment of the brittle root left in the ground can become a new plant. The best way to eradicate Bindweed is by regular and repeated cultivation, to slowly starve the root of food.

Campanula rapunculoides

Bellflower

Introduced perennial *Campanulaceae*

The lovely Bellflower was originally introduced as an ornamental and is now locally naturalised in woods, roadsides and waste places. Unfortunately it is rarely common enough to be used for food.

Shoots: The spring shoots are good in salads, or cooked as a pot herb.

Roots: The fleshy rootstock is the most substantial food from the Bellflower and is good enough to have occasionally been cultivated as a root vegetable (it's a close relative of the Rampion *C. rapunculus)*. Like most roots it's best when dormant from autumn to spring. The peeled root is good raw in salads, baked, or boiled for 20 minutes.

Flowers: These can be added to salads.

Cultivation: Bellflower is pretty and very easy to grow, but isn't popular because it has a reputation for being invasive. Its fast spreading roots are hard to contain and it often becomes a serious pest in small gardens. The best solution to this problem (aside from not planting it!) is to dig up the plants and eat most of them (chances are enough fragments will remain behind to perpetuate the species).

Grow from seed, soft cuttings or division. It prefers rich soil with sun or part shade.

Related species:

C. latifolia - Giant Bellflower

This species has been used for greens like the above, but is really too pretty to use.

C. persicifolia - Peach Bells

This common garden plant can be used for greens as above.

Campanula rapunculus

Rampion

This species was once quite widely cultivated as a root crop, but has almost completely disappeared from gardens in recent years. It may occasionally be found as an escape from cultivation in some places.

Cannabis sativa

Indian Hemp

Introduced annual *Moraceae*

This unjustly notorious species is illegal of course. Once widely cultivated, it is still occasionally found growing wild in rich damp soils. Be aware that plants you find growing "wild" might actually be someones clandestine growing operation. If you find any plant I advise caution, as a grower won't be very happy if they see you hanging around their plants.

I have included Hemp here because it is an exceptionally useful plant and it has been a camp follower of humans. for longer than recorded history. The plant loved the nitrogen rich dump heaps found around primitive villages and it has stayed near the works of humans ever since. The inhabitants of those villages no doubt encouraged the plant to grow nearby, as it is a valuable source of fiber and has potent medicinal and euphoriant properties. At times it has even been considered sacred.

This species has gained notoriety in the west as the source of the drugs marijuana and hashish and cultivation or possession of the plant is generally illegal. This is unfortunate, as Hemp is one of the most useful of all plants, which is why it was once one of the most important crops worldwide. Despite years of persecution it is still occasionally found wild in waste places.

History: Hemp was once widely cultivated as a fiber plant and quite a few places are named after it, such as Hempstead.

When Hemp became a popular recreational drug in the 1960's cultivation began again, this time illicitly for the production of marijuana. The British climate is not really hot enough for growing good marijuana however, so it is now commonly grown indoors under lights. I imagine that someday someone will genetically engineer a yeast or bactera to produce THC, or transplants the THC producing genes into an Oak tree or a Dandelion.

Constituents: The powerful euphoriant and narcotic effects of *Cannabis* are due to a resin that contains cannabidiolic acid. When dried or burned this is converted into delta tetrahydrocannabinol (THC), a potent central nervous system stimulant. Marijuana and hashish have been used around the world for thousands of years, but only quite recently have they become popular in the west.

There is much controversy concerning the health effects of THC and despite the best efforts of many to prove otherwise, it still appears to be largely nonaddictive andnon toxic even when consumed in large quantities over a long period of time. Few, if any, deaths have ever been directly attributed to it, though it is perhaps the mostly intensively studied drug ever. This is not an endorsement of the drug, as deliberately inhaling smoke is not a good idea and though it isn't addictive it can certainly be habit forming (like any pleasant activity).

Greens: The tender seedlings have been used as a potherb, though the plants contain a number of toxins.

Seed: The parched seeds have been ground to meal for baking bread. They have also been boiled to mush and then fried in batter. They are very rich in high quality protein and a number of commercial hemp seed food products are now appearing.

Medicine: The leaves and flowers of Hemp (or the extracted resin) were once highly esteemed as a medicinal herb. As close to a panacea as you could find, they were used as a sedative hypnotic (for insomnia), relaxant, analgesic (for migraine, rheumatism, labor pains, menstrual cramps) and appetite stimulant. They have also been smoked to relieve asthma and bronchitis. It may also cause stupefaction and criminal fanaticism (though I have never seen it).

The leaves have been used externally for insect bites and wounds and may contain an antibiotic. The seeds are a laxative, tonic, diuretic and vermifuge.

Medical marijuana: Marijuana is a valuable antinausea drug for reducing some of the side effects of chemotherapy in cancer patients. It can also increase the appetite, which can be very helpful in fighting some of these life-threatening diseases. It is also of value in treating glaucoma, Alzheimer's disease and multiple sclerosis and in some cases the relief it has brought has been called miraculous. Of course it can also make being alive more pleasant than it might otherwise be if you are dying.

These benefits have inspired a medical Marijuana lobby, working to make it legally available to those who could benefit from it. In my opinion the whole idea of making a plant illegal is absurd. There is no valid reason why this amazing plant should not be available to anyone who wants it.

Sacrament: Some people consider Hemp to be a gift from god, a sacred herb and a bringer of visions.

Oil: Oil from the seed dries quickly when exposed to air and was once widely used in the manufacture of paints and varnish, as well as lamp oil. It may produce 280 pounds of oil per acre.

Fuel: These fast growing plants could be cultivated as a source of biomass for producing alcohol or methane, or they could simply be dried and burned. Oil from the seeds could be used to produce biodiesel (see *Brassica*).

Fiber: Hemp provides one of the best of all plant fibers for making rope, cord, twine, oakum and fabrics of all kinds. Hemp fiber has also been used to make paper, cardboard and wallboard for building.

Hemp has great potential as a fiber source for the future, as it produces up to four times as much cellulose per acre as trees. It could essentially replace wood as the source of most of our paper. This would also reduce the pollution associated with papermaking, as it needs less processing. In some places Hemp is still used for making high quality paper, such as that used for making cigarettes.

Cultivation: This annual is very easy to grow from seed and often self-seeds readily. It can even become a nuisance. It prefers rich soil with a high nitrogen content, such as garbage heaps and cultivated ground.

Growing Hemp for fiber is very different from growing it for drug use. For maximum fiber production male plants are preferred and the varieties grown naturally contain little THC These are harvested prior to flowering. For drug use the flowering female plants are desired and varieties with a very high THC content are used

Horticultural uses: Hemp is attractive as well as useful. In ideal conditions it grows rapidly to twelve feet or more in height and makes a fine temporary screen or windbreak. It is useful as a green manure crop, as it is one of the best accumulators of phosphorus. It is also an excellent smother crop, to clear fields of weeds. Hemp is said to repel many insect pests and is a good companion plant.

Cantharellus cibarius

Chantarelle

Native Fungus

The chanterelle is fairly common, has a distinctive color and funnel shape that is easy to recognize and it is very good to eat. Another useful feature is that whereas most fungi are very quick to grow and decay, the chanterelle can take weeks to grow and may be edible for a month or more.

Chantarelles are mycorrhizal (growing in association with the roots of trees) on a variety of host trees, notably beech. They aren't easy to spot initially, as the young plants hide down in the litter on the forest floor and you have to look closely to see their distinctive orange color peeking through. As they grow they become more visible and when growing abundantly they can even be seen from a distance.

Sautéing is one of the best ways to cook these mushrooms, as it allows a lot of their water to evaporate. They are also good baked and in soups and sauces. The flavor is fairly delicate, so don't waste them by cooking with very strong flavors.

Capsella bursa pastoris

Shepherds Purse

Native annual *Brassicaceae*

This opportunistic little annual can be found all over the British Isles. It has naturalised in most temperate areas of the world, though rarely far from the work of humans. It has been so successful because it sets seed abundantly (it pollinates its flowers before they even open) and its seed may remain viable for up to thirty years. It is also very hardy and can survive temperatures as low as -12°C. The common name was given because the pods were said to resemble the purses once carried by shepherds (as you might have guessed).

Greens: Unlike many members of the *Brassicaceae*, the leaves don't really get very pungent or bitter, so can be used any time they are available. They are probably at their best before the flowers appear. Their only drawback is that the leaves are small even when fully grown. The plants are actually cultivated for sale in Taiwan and China.

The leaves can be used in salads, or cooked for a few minutes as a potherb. They are good sautéed with onion.

Seed: The seed can be ground to meal and used as a condiment like Mustard. It has also been sprouted like Alfalfa (*Medicago*), or grown like Cress.

Medicinal uses: Shepherds Purse leaves have long been an important wound herb and were used as a battlefield dressing by soldiers as late as World War One. It may be used as a poultice (see *Plantago*) or wash. A tea of the leaves has been used to stop internal bleeding.

The plant has also been used to treat diarrhea, to regulate blood pressure, as a liver stimulant, a blood purifier and to stimulate uterine contractions.

Cultivation: Shepherds Purse is cultivated commercially in China and widely available in markets. It is a good early season salad crop that will grow in cool conditions. It is easily grown from seed and will grow in almost any soil, though it gets bigger and more succulent in rich moist soil. It can also be grown as a cut and come again crop and harvested when a few inches high.

Related species:

C. gracilis

C. rubella

Use as above.

Cardamine pratensis

Ladys Smock

Native annual *Brassicaceae*

The name Cress is of AngloSaxon origin and was once applied to any member of the *Brassicaceae*. This species is common in damp soil throughout Britain.

Greens: The Spring Cresses are good to eat in late winter and spring. They are good raw in salads while the weather is cool, but not so good later in the year. The young leaves and flower buds can be used as a potherb in the same way as Wintercress (*Barbarea*).

Cultivation: Most species prefer rich, moist soil and light shade and can be propagated by seed or division. They have been grown as cut and come again salad greens.

Related species:

C. amara - Large Bittercress
C. flexuosa - Greater Bittercress
C. hirsuta - Hairy Bittercress

Used as above.

Cardaria draba

Hoary Cress

Introduced perennial *Brassicaceae*

This species is quite common in the south, on roadsides and waste places. The leaves can be used like other Cresses as a potherb, or in salads. The seeds have been used like Mustard (*Brassica*).

Carduus nutans

Musk Thistle

Native biennial *Asteraceae*

Closely related to the *Cirsium* genus and often classified interchangeably, the Musk Thistle can be used in exactly the same ways (see *Cirsium*). They are quite valuable wild food plants. It is common in grassland and waste places in England and Wales.

Other species can probably be used in the same ways.

Carex species

Sedges

Native perennials *Araceae*

No Sedges are known to be poisonous when young, though mature plants may contain toxins. The use of Sedges as food is limited to the succulent young 3 to 4 inch shoots and stem bases. In spring these are peeled and eaten raw or cooked. The seeds are also edible, but not often available in quantity.

Some Sedges produce tough creeping rhizomes which were prized by Native Americans as some of the best materials for basket weaving. They are very supple and strong and can be split as fine as thread. Stands of plants were regularly harvested, weeded and cultivated to encourage the growth of the maximum amount of usable material.

The root network of the Sedges helps to prevent erosion of riverbanks and they are sometimes planted for this.

Carlina vulgaris

Carline thistle

Perennial *Asteraceae*

The receptacles of the flowers buds have been eaten like the related Artichoke.

Carpinus betulus

Hornbeam

Native tree *Betulaceae*

This species is most common in the southeast.

Wood: Hornbeam wood is strong, but so hard it is difficult to work with hand tools. Because of this it was only used where hardness and strength were important, such as for ox yokes, mill cogs and chopping blocks.

Fuel: Hornbeam wood is excellent firewood and also makes very good charcoal.

Coppice: Hornbeam coppices well, but isn't very fast growing. It was once commonly coppiced or pollarded for firewood. There are many formerly pollarded trees in Epping forest, once cut regularly to supply fuel for London.

Carum carvii

Caraway

Native biennial *Apiaceae*

Though this species is probably native to Britain, it is very uncommon in the wild. The plants you are likely to find are most likely to be escapes from cultivation.

As with any member of the you should be certain of your identification before eating this plant, especially if you are using it when young. It could be confused with some very dangerous plants.

Food: Caraway seeds were once a popular flavoring for bread and baked goods. They are especially popular in Eastern Europe where they are used to flavor cheese, sauerkraut, rye bread and soup. They have also been candied as a confection and are said to aid the digestion. Oil from the seed is used to flavor the liqueur known as kummel.

The roots are also edible and were once commonly cooked like Carrots. They should be gathered from the time they go dormant in autumn, until they start to grow again the following spring. Roman soldiers apparently cooked them with milk and made cakes out of them. The young leaves can be eaten in salads, or used as flavoring.

Medicine: Caraway has long been considered a carminative and is either chewed or taken as a tea.

Cultivation: This biennial herb has a very long history of cultivation dating back several thousand years. Grow from seed in rich garden soil.

Castanea sativa

Chestnut

Naturalised tree *Fagaceae*

Chestnut is native to southeastern Europe. It is said that the Romans first introduced it into Britain. If so they must have been somewhat disappointed because Chestnut is native to warmer climates than ours and only bears fruit well in good summers (and then the nuts are usually smaller than those of warmer areas). The trees have been widely cultivated in parts of southern England and they are now commonly naturalised . It gets rarer further north ,(nd usually doesn't ripen fruit there) They are also commonly planted in parks and gardens.

Nutrients: Chestnuts were once a staple food for people in Asia, Europe, North America and North Africa. Unlike most common nuts they don't have much protein or fat, but contain about 40% carbohydrate, which gives them a food value of about 1000 calories per pound. They are also rich in iron, phosphorus and potassium.

Food: Mature trees fruit abundantly almost every year and are said to produce more food than an equivalent area of wheat.

Gathering: Remove the spiny husks from the nuts as you collect them, by rolling them under your feet. The husked nuts can then be eaten immediately, dried or frozen (best) for later use.

Preparation: Chestnuts can be eaten raw, but they aren't very good and frequently cause flatulence. They are excellent when baked or roasted, as this turns some of the starch into sugar and gives them a sweet flavor. Traditionally they are roasted in the hot ashes of a fire. You puncture the leathery skins of all but one nut and put them in the ashes to bake. In theory the unpunctured nut is supposed to burst when they are all cooked, though this doesn't always work, so sample one occasionally until they are cooked. You can also boil them, or bake in an oven at 200°C for 20 minutes (puncture them first).

The hardest part about eating chestnuts is peeling them as you have to not only remove the hard leathery skin, but also a fuzzy second layer (the pellicle). This is much easier to remove while the nut is hot, so do it as soon as possible after cooking (even to the point of wearing rubber gloves).

In Europe Chestnuts were commonly made into flour for baking bread and cakes (these were often wrapped in Chestnut leaves for baking). They were also used for making a kind of porridge, usually mixed half-and-half with wheat or corn meal. They have even been roasted as a coffee substitute.

Wood: In Britain the trees have always been more important for their attractive and rot resistant wood, than for their nuts. The wood splits easily along the grain to make wide planks, which was a significant consideration before power saws. It is soft enough to be worked with quite simple tools and was available in very large pieces. It is also very durable when in contact with water. Fallen trunks are sometimes still sound after lying on the ground for forty years.

Chestnut was once frequently coppiced. The small diameter poles were used for paling fencing, Hop poles, gates, charcoal and split basket weaving. The bark was used for tanning leather.

Cleft Chestnut was commonly used for gates, trugs, baskets and barrels. Even young trees contain a high proportion of durable heartwood, which makes coppiced poles ideal for use as fenceposts and fencing materials. It was once widely coppiced to provide poles for various uses, split basket weaving, fencing, gates, fence posts and Hop poles. In Kent it was once grown on a large scale for Hop poles. Coppice Chestnut might now be used for making paper, or for firewood.

Fences: Coppiced Chestnut was commonly used for making pale fencing or palings, in fact this was the intended purpose of most plantings. The poles were harvested when about 5 to 6" in diameter and cut into sections the height of the fence required. They were split lengthwise into pales, which are cloven strips of wood about 2 X 1 inches in thickness. These were bound tightly into bundles to keep them straight and left to season. The seasoned pales were made up into fencing on a simple apparatus consisting of three pairs of galvanized wires. The pales were laid individually between the pairs of wires, which were then twisted (changing direction after each pale) to hold the wood securely. This fencing was made where the trees grew. It is light, durable, rolls up easily and is strong enough to resist animals and humans (many children will tell you that it is awkward to climb over).

Firewood: Chestnut wood is also good firewood, though rarely available in quantity today. The thrifty Europeans bound waste wood and prunings into faggots for fuel. Chestnut coppice is a good way to grow firewood (see *Populus* for more on fuel wood coppice). Chestnut can also be converted into charcoal.

Animal food. Chestnuts were very important food for wildlife and livestock.

Crop use: In Southern Europe a peasant economy grew up around the indigenous Chestnut forests and created a symbiotic relationship between humans and trees that lasted for over a thousand years. The finely tuned, self sustaining forest agriculture that developed was a model of agro-forestry and could teach us a lot about ecologically sustainable agriculture. Sadly it has declined in this century.

The European forest farmers gradually replaced the wild Chestnut trees with grafted varieties, creating large forests of select cultivars. To replace a tree that was past its prime they would plant a young grafted sapling nearby. When the sapling was well established they would fell the old tree while the wood was still useful, leaving the sapling room to mature. The nuts were a staple human food, while livestock foraged for the nuts overlooked by human harvesters. The animals also kept the forest open and more accessible by eating low growing vegetation. Chestnut weevils were kept in check by chickens foraging under the trees. The wood of mature trees was used as lumber, while smaller branches were bound into faggots for fuel. Dead leaves were used as bedding for humans and litter for livestock (their high tannin content makes them toxic to most insects). The soiled litter was used as fertilizer for vegetable gardens.

Propagation: These trees are easily grown from ripe seed, planted two inches deep in autumn. They must be kept moist to preserve viability and must be protected from rodents (which will eat them). The seedlings are planted out in a nursery bed after a year and into their permanent home three years later (they have a deep taproot so take care when moving them). They do not like cold or exposed growing situations. Under ideal conditions they grow very rapidly, often adding an inch to their diameter annually and producing useful lumber in only 50 years. Mature Chestnut trees may grow to 100 feet in height and four feet in diameter. They start bearing fruit in 7 to 10 years, or even earlier with some improved cultivars.

Wild nuts are usually fairly good, but cultivated trees are grafted for improved yield, quality and earlier bearing. Over the centuries many cultivars of Chestnut have been bred (especially in Europe), with special varieties for animal feed, desserts and flour.

Coppice: Coppiced Chestnut can be grown by itself, or as a productive understory beneath larger fruit or lumber producing trees (known in England as Coppice with standards). The trees should be set at least seven feet apart for best growth.

Centaurea cyanus

Cornflower

Native annual *Asteraceae*

This species was once very common as a weed of cultivated fields, sometimes coloring the fields blue, but is now much less so. The pretty blue flowers have been added to salads for their color. They have also been used as blue food coloring.

Centranthus ruber

Red Valerian

Naturalised perennial *Valerianaceae*

Also known as Jupiters Beard , this species is in the same family as the herb Valerian (Valeriana) but has none of the plant's strong smell or medicinal properties. It is quite common in southern England on dry soils. It might also be found as an escape elsewhere.

Food: The young leaves can be used as a salad or pot herb in spring, but get bitter later in the year. Apparently the roots are also edible.

Cultivation: With its white, pink or red flowers this is a popular garden ornamental. Grown from seed or division, it is very independent once established and readily self seeds.

Cerastium semidecandrum

Little Mouse Ear

Native annual *Caryophyllaceae*

This hairy little plant is quite common in the southeast. It can be used as a pot herb in the same way as its close cousin the Chickweed (*Stellaria*). It isn't used raw because of its hairiness. Some other *Cerastium* species may be used in the same ways.

Cetraria islandica

Iceland Moss

Native lichen *Lichenes*

Iceland Moss can be found on mountains and moorland in the coldest areas of Britain. It is not really a practical food plant in Britain.

Iceland Moss is a lichen not a moss. A lichen is actually two separate plants growing symbiotically, a fungus and an algae. The algae photosynthesizes food for both plants, while the fungus provides a physical structure and protection from the elements. Lichens are incredibly tough little plants, able to thrive in places so inhospitable no other plants could even survive. They are resistant to cold, drought and heat and can survive temperatures of up to 120°C.

Lichens are often the dominant plants in extremely cold areas, because they are the only species capable of thriving there. This species can be a valuable food source if properly prepared and has kept people alive when there was nothing else to eat. It is rich in carbohydrate in the form of lichenin and isolichenin and also contains a little protein, fat and vitamin C. The carbohydrates are chemically similar to those found in seaweeds and like them are not easily digested by humans.

This is the most useful food lichen and is harvested commercially in Scandinavia.

Caution: Lichens contain cathartic acids that must be leached out before they are edible. Even the leached plants have been known to cause stomach problems, when used in quantity for prolonged periods.

Gathering: Lichens grow very slowly and should only be used for food in emergencies, or when very abundant. Gather them by cutting, rather than uprooting, so they will be able to regenerate more easily.

Preparation: The irritant acids can be leached out by soaking overnight in several changes of water. Adding a little wood ashes or baking soda to the water will help neutralize the acids. You can also boil the moss in a couple of changes of water, with some wood ashes. After leaching, dry the moss and grind to powder.

Use: The leached moss contains a lot of mucilage and can be boiled, strained and sweetened to make a kind of jelly. Citrus peel and wild berries can be added for extra flavor and milk used instead of water. One part of lichen flour has been mixed with four parts wheat or corn flour and baked into bread. In

Scandinavia ships biscuits were sometimes baked with a proportion of lichen flour, as it was said to deter weevils. The flour has also been used to thicken soup and has been made into a passable dessert. The latter was made by mixing the flour with water and leaving overnight to form a jelly. Fruit and sweetener were then added.

Drink: Lichen tea is made by steeping a teaspoon of the flour in a cup of boiling water, then flavoring with citrus peel, herbs and sweetening to taste. In Scandinavia the moss has been fermented to make "Danish Brandy".

Medicine: Iceland Moss contains a potent antibiotic which has been used for medicinal purposes and as a food preservative. The jelly was used by herbalists to treat pulmonary complaints and it has recently been found to inhibit the growth of tuberculosis bacteria.

Alcohol: In the Soviet Union during World War Two this species (and other lichens) was used to produce alcohol. They were first treated with hydrochloric acid to convert their starch into glucose and then fermented and distilled in the usual way. Apparently sixteen pounds of moss would yield a gallon of alcohol.

Cultivation: Though lichens grow very slowly, they can do so where few other plants can grow at all and so have been suggested as possible crop plants for the far north. They are easily propagated vegetatively, simply scatter small fragments of plant onto moist rocks and keep moist. They grow faster if given organic fertilizer such as urine, cow dung or skimmed milk.

Lichens are sensitive to airborne pollutants because they obtain some of their nutrients from the air. If this is too dirty they simply cannot establish themselves, though they may survive if already established. This fact has been used to date early pollution, by looking on dated gravestones; one can see when the air became to dirty for lichens to get established.

Related species:

C. nivalis

Used as above.

Chamaemelum nobile

Common Chamomile

Syn Anthemis nobilis
Native perennial *Asteraceae*

The perennial Common or Roman Chamomile is perhaps most familiar as an inhabitant of the herb garden (it is the best flavored Chamomile), but it is native to Britain. It is quite common in southern England and Ireland, rarer as you go north. It has been grown in gardens for centuries and can often be found as an escape.

Drink: The aromatic flower heads are used to make one of the most popular herbal teas and it is widely available commercially. They are best gathered as soon as they open and dried or used immediately. A teaspoon of the flowers should be steeped in a cup of boiling water for 5 minutes. The leaves can also be used for tea, though they aren't as good. The flowers have also been used for flavoring beer, wine and liqueurs.

Medicine: Chamomile was once an important medicinal herbs. It's used as an antispasmodic, carminative, diaphoretic, sedative and tonic. Probably its commonest use is as a bedtime drink to induce sleep.

Chamomile has been used externally as a poultice for toothache, neuralgia, wounds, skin sores, abcesses and sore eyes. It contains an antibacterial substance called chamazulene which explains some of its value.

Cosmetic: This herb is also esteemed as a cosmetic and it finds its way into many commercial preparations. It was traditionally used as a hair rinse, most especially for blonde hair. A tea was rubbed into the hair after shampooing. It has also been used as an astringent face pack to cleanse and smooth the skin.

Other uses: The flowers have been added to potpourri and to smoking mixtures.

Cultivation: Chamomile is very easily grown from seed in average garden soil and is decorative enough to have been used as an ornamental.

Fungicide: Chamomile tea has been used to water seedlings to prevent damping off.

Chenopodium album

Lambs Quarters

Throughout *Chenopodiaceae*

Lambs Quarters is a perfect example of a pioneer species and has managed to spread itself around the world in the footsteps of European colonists. Its success is due in large part to its amazing fecundity, typically a single plant will produce about 4000 seeds, though in ideal conditions they have been known to produce up to 100,000. Some seeds are able to germinate immediately, others must lie dormant for several years. This spreads out the germination over a few years and helps to reduce the competition amongst all those seeds. Needless to say it is common throughout most of Britain, in gardens and waste ground. This is good as it is one of our most useful wild green plants.

Nutrients: A close relative of Spinach, Lambs Quarters has been used as a salad or potherb for thousands of years. It contains large amounts of vitamins A, C and several B's, as well as calcium, iron and phosphorus.

Caution: The plant contains mildly toxic oxalic acid and so shouldn't be used in large quantities for long periods (see *Oxalis*). It may also accumulate nitrates on certain soils, notably those where lots of chemical fertilizers have been used. Nitrates are toxic to humans because they tie up oxygen in the blood. Having said that, I must add that the plant is no more toxic than spinach.

Lambs Quarter Fritters

2 lb greens

1 onion

1 ½ cups all-purpose flour

Salt and pepper

1 tsp baking powder

1 ½ - 2 cups water

1 beaten egg

Vegetable oil

This dish is traditional in parts of Northern Europe. Chop the washed greens and onions, add seasoning and cook in the water that clings to them for 3 minutes. Make a batter of flour, egg and water. add the greens, mix thoroughly and fry like pancakes.

Greens: The young spring growth is good in salads, or as a potherb. The tender flowering tips of older plants (gathered up until the flowers fade), can be boiled or steamed for 5 to10 minutes. They shrink a lot in cooking so gather plenty.

The leaves are a useful addition to green drinks.

Seed: The seeds were widely eaten by hunter-gatherers around the world and several species have been cultivated as seed crops. The most important of these is the South American Quinoa (*C. quinoa*), which was a staple grain crop for the Incas. Quinoa seed contains about 10 to 20% protein and up to 25% fat.

Gathering: Obtaining a quantity of cleaned seed is relatively easy. When the first seeds ripen, gather the whole head and leave it to dry in a paper bag in a warm place. Thresh the dried seed heads to free the seed, winnow out the chaff and it's ready to use. The flavor is improved by toasting in a frying pan like Pigweed (*Amaranthus*), or by roasting for 45 minutes in a 350-degree oven.

Use: The dark gray flour is usually mixed with an equal amount of wheat flour, for making bread, pancakes and porridge. You can make porridge by simply boiling the whole seed to mush.

Medicine: The vitamin rich greens have been eaten to cure scurvy.

Animal food: The seeds are relished by many kinds of birds and are an important wildlife food. The plant was once considered very good for domestic poultry and was intentionally sown to provide them with food. This is the reason it is also known as Fat Hen.

Cultivation: This annual is easily grown from seed and thrives on sunny disturbed sites. It improves the soil by adding humus and bringing up minerals from the subsoil and is a good green manure crop (it must be dug in before it sets seed). It is sometimes sown on bare ground as a quick cover to prevent

erosion and subsequent nutrient loss. It is also a persistent weed and I have spent quite a few hours hoeing down row after row after row.

Native Americans often encouraged the plants by scattering the seed in suitable locations, which is about all you really need to do for it. There is now at least one improved cultivar available.

Related species:

Many other species can be used in the same ways, including:

C. rubrum Red Goosefoot
C. filicifolium Fig Leaved Goosefoot
C. hybridum Maple Leaved Goosefoot
C. murale – Nettle Leaved Goosefoot
C. polyspermum Many Seeded Goosefoot
C. rubrum – Red Goosefoot

Chenopodium bonus henricus

Good King Henry

Introduced perennial *Chenopodiaceae*

This species is quite common on waste or cultivated land in England and Wales. It is closely related to the above, but is a perennial. It is such a good pot herb that it was once commonly cultivated in some areas. It was particularly popular in Lincolnshire and is sometimes known as Lincolnshire Asparagus.

Food: The fleshy leaves are used in much the same way as Spinach, only have a slightly milder flavor (it too contains oxalic acid). They are best for eating raw when they first appear in spring. Older leaves are better cooked in soups and stews.

The edible seed has been used like that of Lambs Quarters above.

Cultivation: Good King Henry is an excellent perennial pot herb and deserves to be more widely cultivated. If you have the space it works well as a semi-wild plant. It does best on rich, moist, garden soil and may be grown from seed or division (divide while dormant). Like most leaf crops it likes rich moist soil.

Chondrus crispus

Irish Moss

North Atlantic *Rhodophyta*

Irish moss is common on rocks on the south and west coasts. It contains carragheenan, an important commercial food additive. This is widely used by food processors, to add body and as a stabilizer. This has probably been eaten by almost everyone at some time.

Caution: Carragheenan has been linked to some forms of cancer and is suspected of having both teratogenic and mutagenic effects.

Carragheenan has little food value to humans, as we aren't able to digest it very well. Digestibility apparently improves with habitual consumption however. Like most seaweeds the plant is a useful source of vitamins and minerals.

Gathering: Irish Moss can be gathered any time you can get it, but is at its best in spring and early summer. Commercial moss gatherers (mossers) gather storm tossed moss year round, or rake it from the shallow water of the lower shore.

Wash the plants in fresh water to remove salt and sand and then spread them out in the sun to dry. If you leave it long enough it will be bleached white. Commercial mossers spread out a thin 2" layer, to be washed by the rain and dried in the sun. They usually have to turn it once or twice before it is thoroughly crisp and dry. They also have to leave it long enough to be bleached by the sun, as this is preferred by buyers.

Gelatin Substitute: The plant was used like agar or gelatin in puddings. Soak a quarter cup of dried weed for 15 minutes and then boil in 2 ½ cups of fresh water or milk for about 30 minutes until it almost dissolves. Stir carefully to prevent sticking or use a double boiler. The solids are then strained out and the liquid is allowed to cool and set. Various fruits or vegetables can be added for flavoring. It has also been used to thicken soups and sauces.

Medicine: Irish Moss was used for its demulcent properties, to soothe mucous membranes and for respiratory problems. During World War One it was used to treat victims of poison gas.

Sewage Treatment: Irish Moss has been used experimentally in biological sewage treatment plants, in the final stage of the purification process.

Fertilizer: Like most seaweeds it is an excellent garden fertilizer. See *Macrocystis* for more on the uses of Seaweed in the garden.

Chrysanthemum leucanthemum

Ox-Eye Daisy

Native *Asteraceae*

This attractive little plant can be found on roadsides and waste ground almost throughout Britain. It is usually overlooked as a food plant, but I like it a lot and use the leaves up until they flower. Some people complain it gets bitter and unpleasant with age, but I haven't found this and have used it up until it flowers.

Greens: The sweet and mildly aromatic leaves are a nice addition to salads. I have never used OxEye Daisy as a potherb, but it is so used. A similar flavored Asian species, the annual Garland Chrysanthemum (*C. coronarium*) is widely cultivated in Japan as a food crop.

Medicine: The leaves can be used as a wound poultice and as a mild diuretic.

Insecticide: This species is a close relative of Pyrethrum Daisy (*C. coccineum*) and its dried powdered flower heads can be used as a mild insecticide or insect repellant. The active ingredient is apparently scabrin and not the more potent pyrethrins.

Cultivation: The perennial OxEye Daisy is attractive enough to have been used as an ornamental, but it self- sows readily and can become a weed if not controlled. It is easily grown from seed in most soil types and is worth planting in any wild or waste spot. It is also good for cut flowers.

Related species:

C. balsamita - Costmary

This Asian species was once very widely cultivated in gardens and is now occasionally found naturalised. Its aromatic leaves have been used in salads (chop finely), as flavoring for cakes, soups, beer and for tea.

C. segetum – Corn Marigold

As the name suggests, this is a weed of cultivated fields throughout Britain. The new leaves and young shoots can be used as described above.

Chrysoplenium oppositifolium

Golden Saxifrage

Native perennial *Saxifragaceae*

This species can be found growing in wet soils almost throughout Britain and is often common. It may stay green year round and is very good as a salad or potherb any time it is available.

Related species:

C. alternifolium – This less common species can be used in the same ways.

Cichorium intybus

Chicory

Native biennial *Asteraceae*

Chicory is common on waste places and roadsides in the south of England, less so further north (though it may be found as an escape). It has a history of cultivation dating back to the ancient Egyptians. Its pretty blue flowers each open for only one day and usually close by noon.

Nutrients: Chicory leaves are as bitter as those of Dandelion and almost as nutritious. They contain lots of vitamin A and C and many minerals including iron, potassium, calcium and phosphorus.

Food: Chicory is cultivated for three quite different foods, greens, roots (for coffee) and shoots (known as chicons) and specific varieties have been bred for each. Wild plants can be used in all of these ways, but are smaller and more bitter.

Greens: The tender new spring leaves can be used in the same ways as the related Dandelion (See *Taraxacum*), as salad greens, or as a potherb. The leaves are always somewhat bitter, but as the plant matures they become impossibly so. Blanching reduces their bitterness considerably and this probably led to the forcing of the roots. Improved varieties of chicory are commonly cultivated in Italy for greens.

Shoots: Cultivated Chicory roots are forced indoors to provide tasty white shoots called *chicons*. This has become a major industry in Belgium and they are sometimes available in supermarkets under the name Belgian Endive.

Coffee: Chicory is perhaps best known for its use as a coffee substitute or extender. It was once so widely used as a coffee adulterant that its use was made illegal. However many people say Chicory actually improves the flavor of coffee and it may reduce its harmful effect on the liver.

To make Chicory 'coffee' the cleaned roots are dried thoroughly, until they are so brittle they snap easily. They are then ground to a powder and roasted in an oven until uniformly brown. The drink is prepared by mixing a teaspoon of the roasted powder with a cup of boiling water. You can also add roasted sprouted barley, carob, cinnamon, or other goodies. It is often mixed with an equal amount of coffee.

Forcing: In cold climates the roots are sometimes dug in late fall and forced indoors over the winter. They are planted in a box of sand and stored in a cool dark place until required. To start them growing they are watered and moved to a warmer place. The pale shoots are harvested as needed. The roots will continue to produce more shoots until they are exhausted.

Root: The roots have been cooked like Salsify (*Tragopogon*), though they are bitter unless the cooking water is changed two or three times.

Medicine: The Roman physician Galen called Chicory the friend of the liver and herbalists have long used it for urinary, kidney and liver problems. It is also used as a digestive tonic, to neutralize hyperacidity and to eliminate mucus. It can be taken as food, in green drinks or as extracted juice, though the latter is extremely bitter unless mixed with other juices. The roots and leaves have been used externally for skin problems.

The juice has apparently been mixed with honey and applied to women's' breasts to make them firm. Maybe this use has something to do with the plants influence by the planet Venus and its use in love potions.

Animal food: Chicory has been used for animal forage.

Cultivation: The perennial Chicory is one of the easiest vegetables to grow. Even the cultivated varieties have retained some of their wild vigor and need little care once established. It is easily propagated from seed and thrives in most soil types (for the largest roots and easier harvesting, a loose, rich, moist soil is best). It self-sows readily and might be considered a weed if it weren't so useful.

Chicory has a generally beneficial effect on the garden. Its bright blue flowers are pretty and attract a variety of beneficial insects.

Cirsium arvense

Creeping Thistle

Native perennial *Asteraceae*

This species is common throughout Britain on waste ground, cultivated fields and pastures.

The formidably armed thistles are quite handsome plants, though this is easily forgotten if you stand on one in bare feet, or your field is overrun with them. Though we don't generally think of thistles as food they have all the attributes that make good wild food plants. They are easily identified, have no poisonous look-alikes, are available year round, are quite nutritious and taste pretty good, even when raw. All parts have been eaten and no species is poisonous, though some may accumulate toxic nitrates when growing on heavily chemically fertilized fields. The many species vary a great deal in habit and edibility, so one must experiment with them to find the best.

Greens: The young spring leaves can be eaten as a salad plant. Just trim off the spines and chop well. Older leaves can be cooked as a potherb for fifteen minutes, though you might have to change the cooking water once or twice to reduce their bitterness.

Flower stem: The stems are gathered before the flowers open, peeled of their tough skin and eaten raw or cooked (they are good in soup). For a quick snack, split the stems lengthwise and eat the succulent interior.

Flowers: The larger flower buds can be cooked and eaten like artichokes (a close relative). The dried flowers of all species have been used to curdle milk for making cheese. Use five teaspoons of dried flowers to a gallon of milk.

Roots: The roots can be eaten year round but are best while dormant in winter. Locate them at this time by the rosette of leaves. I have dug roots in midsummer and found them tasty straight from the ground, however some species are bitter unless cooked in a change of water. They can be boiled (preferably then sliced and fried), added to soup, or baked in a fire pit. The slow baked roots were a favorite of native Americans. They become very sweet when baked, as their starches turn to sugar. You might try baking them in aluminum foil in the ashes of a fire, or in a 350-degree oven for 30 minutes. Native Americans dried and ground the baked roots to flour and added it to bread.

Coffee: The roasted roots can be used as a coffee substitute, like those of the related Chicory (see *Cichorium*).

Down: The downy seed have been used for stuffing clothing and pillows. It was once commonly used as tinder to catch sparks for starting fires.

Animal food: Though the fresh plant is inedible to most animals (except goats and donkeys), the cut and dried plants are nutritious feed for livestock. The flowers are a rich source of nectar for bees and other insects and the seeds provide food for many birds.

Weed: Thistles are a typical sign of over grazed land, where livestock has eaten everything palatable, leaving only the plants which bite back. Without competition these can multiply freely. These plants are perfectly adapted for this niche, they are covered in spines, produce huge numbers of long-lived airborne seeds and have creeping perennial roots (which enable a single plant to cover twenty square feet in a single season). We blame the plants, but they are really filling an ecological vacuum created by poor land management. Thistles have been called nature's last line of defense against soil degradation, which gives you a different way of looking at them.

They can be eradicated by repeated cutting, by digging and eating the roots, or by goats and donkeys.

Horticultural uses: These deep-rooted plants improve the soil by breaking up compacted subsoil and bringing minerals to the surface. The flowers and seeds attract beneficial insects and birds to the garden.

Biodynamic gardeners consider Thistles so beneficial they use a tea of the plant as a compost inoculant. Steep the foliage in water for several days as for Comfrey – (*Symphytum*).

Species Include:

No *Cirsium* species is poisonous and all young plants provide edible leaves, but their palatability varies considerably. The best include:

*C. eriopho*rum - Woolly Thistle

C. palustre - Marsh Thistle

C. oleraceum - Cabbage Thistle

C. vulgare - Spear Thistle

Cladonia impexa

Reindeer Moss

Syn *Cladina* spp

Native lichen *Lichenes*

Food: Reindeer Moss gets its common name because it is an important food for those animals. It can also be used as human food if prepared in the same way as Iceland Moss (*Cetraria*). Here we are entering the realm of the "survival food", as the resulting dish has been likened (forgive the pun) to snail slime.

Greens: Lichen, eaten while still warm from a Caribou's stomach, was an Inuit delicacy. For a special treat this was mixed with blood and allowed to ferment in the smoke of a fire for a few days. White men with the courage to taste such an unconventional dish said it was actually very good

Medicine: *Cladonia* species contain antibiotics and have been used in commercial burn preparations. They should be used with caution, as they occasionally cause contact dermatitis.

Alcohol: The plants could be used like Iceland Moss to make alcohol.

Model making: This lichen is used by model railroaders and others to make model trees. It is soaked in glycerine before use to stop it drying out.

Animal food: These lichens are very important food for arctic animals such as musk oxen and caribou / reindeer. They have also been fed to cattle when other forage plants are scarce.

Cultivation: Same as Iceland Moss.

Clinopodium vulgare

Wild Basil

Native perennial *Lamiaceae*

Wild Basil is quite common in hedgerows in the milder parts of England and Wales. It is most often used for tea, though it has also been used as a culinary herb. The flavor is mild so use a lot. It isn't in the same genus as Sweet Basil (*Ocimum*) and doesn't really resemble that plant very much, so don't be disappointed with it. It is a little too hairy to use raw, unless finely chopped. It was once used as a strewing herb (see *Acorus*).

Cochlearia officinalis

Scurvy Grass

Native biennial or perennial *Brassicaceae*

This species can be found in all coastal areas, except the south coast. This northerly growing plant gets its common name because it is rich in vitamin C and was once used to treat scurvy (which is an old name for vitamin C deficiency). It was so effective it was dried and carried on sailing ships as a preventive. It is also rich in vitamin A.

Greens: Like many members of the *Brassicaceae*, Scurvy Grass is only palatable in cool weather and becomes bitter and pungent in summer heat. The very young leaves of first year plants can be used in salads and sandwiches and are quite good. If they are too bitter to eat raw, then cook in at least one change of water.

Drink: Scurvy Grass was used to flavor beer, before the introduction of Hops.

Cultivation: This biennial or perennial plant is easily grown from seed and is tolerant of saline soils. It is occasionally cultivated as a potherb in the far north.

Related species:

*C. anglic*a - English Scurvygrass

C. danica - Danish Scurvygrass

These species are used as above and may actually taste better.

Coprinus comatus

Shaggy Ink Cap

Native Fungus

With its long, cylindrical, shaggy cap (and habit of dissolving itself), there is little chance of confusing this species with anything poisonous. It is a weed of the mushroom world in that it is a pioneer of disturbed habitat and is naturally found on grassland, wood chips, old compost piles and soils with lots of organic matter (such as from heavy manuring).

Its' flavor is fairly delicate and doesn't require much cooking. You have to gather this mushroom fresh as after a day or two it starts to dissolve into a black inky mass (which is why it's called the ink cap).

Coriandrum sativum

Coriander

Native annual *Apiaceae*

This species is native to Britain but most wild plants are likely to be escapes from cultivation.

Food: Coriander is best known in Britain for its highly aromatic and distinctively flavored seed capsules (seeds). This is ground and used to flavor pickles, curries and many other dishes. They are also used to flavor the liqueur called Kummel.

In some countries this plant is more important for its leaves than for its seed. These have a very distinctive aromatic flavor which is quite different from that of the seed. It is a flavor people seem to either love or hate. I used to hate it, but have since learned to love it in Mexican dishes (where it is known by its Spanish name Cilantro).

Conopodium majus

Pignut

Native perennial *Apiaceae*

This little member of the *Apiaceae* is quite distinctive with its white flowers and small tuberous root. It gets its name because pigs are said to be fond of the root. Pignut can be found in woods and fields almost throughout the British Isles.

Food: The small tuber is edible, but hard to dig in quantity unless very abundant. Also the thin stems break easily making it hard to locate the tuber. They aren't bad raw in salads, but are most often baked, boiled or added to soups.

Cornus suecica

Dwarf Cornel

Native perennial *Cornaceae*

This species is mostly found in the highlands of Scotland amongst the Heather.

Fruit: The flower cluster produces a bunch of red berries which are edible when fully ripe. However it doesn't usually fruit abundantly in Britain and the fruits are rather bland. They were most often used to make a kind of pudding with milk and sugar, or mixed with other fruits, but are now too rare to use. You might take the odd berry while out walking. The berries were once believed to improve the appetite.

Cultivation: This handsome little perennial can be propagated from seed (slow) or runners. Once established it spreads rapidly.

Related species:

Cornus mas

Cornelian Cherry

This small tree isn't native, but is quite widely planted in gardens. The common name is quite appropriate, as the single fruits rather resemble cherries. These are quite tasty raw and can be used for preserves, pies and made into wine. It deserves to be more widely planted as a fruit crop.

Corydalis bulbosa

Fumewort

Naturalised perennial *Papaveraceae*

The tuberous roots have been cooked and eaten, but it is not common enough to use.

Corylus avellana

Hazelnut

Native shrub *Betulaceae*

For 2000 years after the last ice age the Hazel was one of the dominant woody plants in Britain. It has greatly declined in abundance since then, but is still very widely distributed in hedgerows and woods throughout the country. It is without a doubt the most useful nut bearing plant we have. It grows naturally as an understory shrub (especially with Oak) and is easily identified by its unique hanging brown catkins, which emerge in February, before the leaves (and the distinctive nuts of course).

Nutrients: The nuts contain about 10% protein, 60% fat and large amounts of calcium, iron and magnesium. They are said to be more digestible than most nuts.

Gathering: Hazelnuts are often produced abundantly, but they are a favorite food of birds, mice, squirrels and many other wild creatures. A single squirrel may eat as many as eighty nuts in one day. With so many predators the ripe nuts don't stay around very long, so they must be gathered as soon as their papery husks start to turn brown in late summer. Plants that are isolated from woods and associated rodents, often hold their nuts much longer.

Preparation: Dry the nuts in the sun, or in a warm room, for a few days (protected from animals of course) and then store them in a cool place. A traditional European storage method is to pack the nuts into jars until almost full, put salt in the top inch or so and seal tightly.

Uses: You may be familiar with the uses of hazelnuts. They are good whole, or chopped, in cereals such as muesli and granola and can be baked in bread and cakes. An interesting variation is to grind them to meal and mix with wheat flour for baking. Immature nuts are edible, but don't store well.

Greens: The newly opened spring leaves of some species have been eaten as a salad or potherb.

Oil: Hazelnut oil is one of the finest cooking and salad oils. It can be obtained by pressing, or by boiling the nuts and skimming off the oil as it rises to the surface.

Firewood: The hazels produce good firewood and the plants could be coppiced solely for this. See Poplar (*Populus*) for more on fuel wood coppicing.

Cordage: Native Americans used the bark fibers of related species for cordage.

Animal food: Hazelnuts are important wildlife plants, providing food for nut eaters and herbivores. Hazel coppice (known as copses) provide important refuges for wildlife.

Wood polish: The oily kernels can be used as furniture polish, simply rub them on the wood and then polish with a cloth.

Wood: Hazel wood bends and cleaves easily, making it ideal for wattle work.

Hazel coppice: Hazel was once a very important plant in Britain and other parts of Europe. It was coppiced to provide small diameter poles for a variety of uses (almost like Bamboo in Asia). These include, tool handles, garden supports, walking sticks, fishing poles, hedging stakes and thatching spars. They were split lengthwise for weaving baskets and wattle hurdles and for use as barrel hoops.

Coppicing makes use of the fact that when you cut down a Hazel shrub it doesn't die, but sends up a number of vigorous new shoots. As these are growing from established roots, with plenty of light reaching the whole plant, growth is very rapid. This is the most efficient way to grow small diameter wood and was widely practiced up until relatively recently. This process doesn't harm the plants at all and can actually prolong their life span considerably.

The production of coppice wood was an intensive kind of forestry and many villages had communal woods to provide for local needs. It was also grown on large estates ,and auctioned off to craftsmen who would use it for a variety of purposes. This provided a steady income for landowners, so coppice land was highly prized. The coppiced woods were also used for raising pheasants for shooting and so provided another, much prized, resource.

Wattle hurdles: One of the main uses of Hazel coppice is for making the portable fences known as wattle hurdles. These were originally used to temporarily enclose sheep in a field, but have also been used to shelter gardens from wind, to stabilize sand dunes and for many other purposes.

The poles were cut when about 1" in diameter, split lengthwise and woven around a line of poles set in a frame. The end result was a panel of solid woven fence about 5 to 6 feet long and 3 to 5 feet high. These sections were joined together as required to form any shaped enclosure that was needed.

These panels are as ornamental as they are effective and now find widespread use in the garden as rustic screens, gates and fencing. Making them provides a livelihood for some enterprising people.

Walls: Woven wattle panels were once used in durable wattle and daub house construction. The panels were used to fill the spaces between Oak timber framing and were covered with a mixture of clay and straw. This was then covered in a more durable coat of plaster. Some houses built in this way have lasted 500 years or more.

Other uses for coppice: In the past all parts of the coppiced plants were used. The smallest twigs were sold to gardeners as pea and bean supports, thinner poles were sold as supports for a variety of plants and any leftover wood was bound into faggots and sold for firewood.

Cultivation: Many varieties of Hazel have been bred during its centuries of cultivation. The plants start bearing when quite young and may reliably produce 500 pounds per acre annually (if you don't have a large squirrel population). They can be planted along with other nut trees and will give a valuable yield

for years before the larger trees start to bear. They are quite shade tolerant and will grow underneath nut or fruit trees as a secondary productive layer. They can also be planted in hedgerows and windbreaks to make them more productive. Some varieties are attractive as ornamentals.

Propagation: Hazels shrubs may live for 100 years, so give them a good site to grow on, with rich soil and full sun or light shade. Sow the ripe nuts in fall, or stratify for three months at 4°C and protect from rodents at all costs. They can also be propagated from suckers, layering or cuttings (taken in late autumn and rooted over winter). Some commercial cultivars begin to bear when about four years old and reach maximum productivity in about 15 years. To ensure good pollination plant a number of varieties.

Coppicing: A coppice is established by planting the seedlings about 4 to 6 feet apart (as many as 800 to an acre). It takes 4 to 6 years to produce a vigorous root system. After that time the shrubs are cut down almost to ground level, leaving an angled stump (known as a stool) to ensure water drains off and doesn't cause rot. This causes the plant to send up vigorous new shoots (these may grow up to 5 feet in one season). These are left for 7 to 12 years (depending upon the growing conditions) to grow to the required size and then cut again. Coppice that had been left too long would be used for firewood or charcoal and the process begun again. This process may be repeated almost indefinitely. If any plants die after being coppiced they can be replaced by layering from the next plant over.

Cutting was done on a rotation, with a section of the plantation being cut each year, so there was a sustained annual yield of poles. Most of this work was carried out in winter when there was little other farm work to be done.

Coppicing with standards was an old intensive farming practice, where larger timber trees were left to grow among the coppiced shrubs and cut as needed. There must not be too many standards, as their shade will adversely affect coppice growth. King Henry VIII introduced a statute specifying no more than 12 standard trees to an acre of coppice.

Related species:

C. maxima

This species is native to southeastern Europe, but is cultivated in Britain.

Crambe maritima

Seakale

Native perennial *Brassicaceae*

This species can be found along the south coast, but isn't very common in most ares. It gets its common name because it is a maritime plant and was used in the same ways as Kale. It is actually a good enough food plant to have been gathered commercially from the wild for many years before it was brought under cultivation. Intensive gathering for food may be one of the reasons why the plant is no longer common in many places. One should only gather Seakale from the wild where it is very common and even then one should use restraint so as not to damage any plants (they are perennial and can live for quite a long time).

Seakale was once a popular garden crop, but its' use has declined markedly in recent years.

Food: The spring shoots are succulent and tasty, with a slightly bitter or nutty flavor. They can be eaten like Asparagus. In the garden they are usually blanched (by covering with a flowerpot) to reduce this bitterness. The tender young leaves can be used as a pot herb, chopped and boiled for 5 to10 minutes (or steamed). Older leaves are too tough to be really considered edible.

The flower buds can be used like those of Wintercress (*Barbarea*) as a kind of miniature "broccoli".

The roots are sometimes dug in autumn and forced indoors like Chicory (see *Cichorium*).

Cultivation: The seed is usually started indoors in early spring (it doesn't remain viable for very long). Germination may be speeded up by nicking the seed coat with a knife or a file. It takes at least 2 years to get shoots when growing from seed.

The other popular method of propagating Seakale is from root cuttings. These should be about six inches long and a half inch thick and are rooted in moist sand or peat moss. This is often the preferred method as it is faster and you know the quality of the plant. You can also multiply the plants by dividing the crowns while dormant.

Seakale likes rich, well-drained, sandy soil, with lots of organic matter. It's a maritime plant, so doesn't mind alkaline or saline soils. It is less vulnerable to pests than most members of the *Brassicaceae*.

This plant is most often grown in its own bed like Asparagus, yet it is an attractive plant with its large bluish leaves and can be used as an ornamental.

Crataegus monogyna

Hawthorn

Native shrubs *Rosaceae*

The Hawthorn is probably the most important plant in many part of rural England. It is common throughout most of the British Isles, except in the far north of Scotland. It is one of the most spectacular native plants when it's in bloom, the white flowers covering miles of hedgerows. It grows naturally in woodland and waste land, but has been planted by the millions in hedgerows.

Shoots: The leaf buds and newly emerged leaves, are a nice addition to salads.

Fruit: The fruits (haws) aren't among the best tasting wild foods, but their quality varies and some are better than others. You may want to try sampling fruit from the bushes you find and you might find one that is almost worth eating. However they have some food value and are very common, so can't be completely ignored in a book like this. Take care when gathering these spiny plants, as they aren't called Haw-thorn for nothing.

The fruits aren't usually eaten raw by themselves, but are usually cooked with tastier fruit, such as Cherries, Blackberries or Bilberries. They are most often used to make a kind of preserve, with sugar and

citrus peel for added flavor. They are rich in pectin and are sometimes added to other fruit preserves to supply this. They have also been fermented to make wine.

Medicine: The Midland Hawthorn (*C. oxyacantha*) has an effect on the heart resembling that of digitalis. A tea of the bark, berries or flowers is used for most heart problems, to lower or raise blood pressure and to improve the circulation. Its action is slower than digitalis, with fewer side effects and it seems to have a generally beneficial effect. A number of commercial heart preparations based on Hawthorn are available in Europe.

A tea of Hawthorn leaves is diuretic and was used to treat kidney stones and water retention. It is also a good astringent and has been used as a gargle for sore throats and to treat diarrhea.

Wood: Hawthorns rarely grow very large, so the use of their wood is limited to small items like walking sticks and wooden bowls. It burns well and was once used for making charcoal, but its availability is limited.

Cordage: Native Americans used the bark fibers of related species for cordage and the thorns as awls.

Animal food: Hawthorns are important for wildlife, the flowers provide food to over 150 species of insects, which of course provide food for other creatures. Small animals and birds relish the fruits and seeds, while the foliage is important browse for deer. The spiny thickets provide small animals with cover from predators.

Hedgerows: Hawthorns have long been the favorite plant for hedgerows, windbreaks and screens. The word hedge is derived from an Anglo-Saxon word for this plant. They are ideally suited to this use, as they are exceptionally hardy, well armed with thorns, fast growing, they don't mind being hacked, bent and manipulated and they sucker vigorously. If carefully maintained they will form an impenetrable barrier. Any hole that appears in such a hedge can be temporarily closed with a few spiny branches. It is filled permanently by laying. This consists of cutting part way through a stem, bending it horizontally and pinning it to the ground. During the next growing season it will send up vertical suckers along the stem and fill in the space.

Hawthorn hedgerows are very important to wildlife, as a source of both food and habitat. Indeed much of our wildlife has disappeared in the past forty years, as hedgerows have been torn out to enlarge farm fields for mechanized farming. Another negative effect of their removal has been vastly increased soil erosion. Ironically the landowners once paid to tear them out, may now be paid to replant them.

Horticultural uses: Hawthorns have been planted as nurse trees, to protect tender seedlings from wind, cold and being eaten by herbivores. Their thorny branches are sometimes spread around newly planted seedlings to deter foraging herbivores (and cats). Some species are very ornamental in spring, when covered in white or pink blossom.

Cultivation: Hawthorns do well in most soil types, even poor ones. Propagate by layering or ripe seed (scarify in acid to remove the hard seed coat and plant out when at least six inches tall).

Scions of cultivated Pear varieties have been grafted onto hardy Hawthorn rootstocks.

Related species:

C. oxyacantha - Midland Hawthorn

This species is common in the south and midlands. It can be distinguished from the above by the fact that the fruits contain 2 seeds, whereas the above fruits only contain one. It can be used as above.

Crithmum maritimum

Rock Samphire

Native *Apiaceae*

This maritime plant is often common on rocky cliffs and shingle beaches in the south, but is rare elsewhere. It isn't closely related to Marsh Samphire (*Salicornia*). It has its own distinctive aromatic flavor which is something of an acquired taste.

Food: The fleshy aromatic leaves were once considered a delicacy and were gathered from the wild for sale in markets in spring and early summer. They are most often pickled or steamed as a pot herb, though they can also be used in salads, sauces etc. It's possible to locate the plants in spring by looking for the dried dead stalks which were last years stems. The seed pods were once pickled.

Cultivation: This species is still occasionally cultivated, but not as much as previously. It is grown from fresh seed in rich well-drained soil with lots of sun. It isn't very hardy so should be protected from frost.

Cymbalaria muralis

Ivy Leaved Toadflax

Native *Scrophulariaceae*

This species is not native, but can now be found in most of the British Isles except Scotland. The leaves have been eaten raw or cooked.

Cynoglossum officinale

Hounds Tongue

Native biennial *Boraginaceae*

This species is most common in fields and waste places in the southwest of England. The young leaves were once commonly eaten as a potherb, however you should use caution with any member of the *Boraginaceae*, as some contain toxic alkaloids (see *Symphytum*).

Cyperus longus

Sweet Galingale

Native perennial *Cyperaceae*

This species is occasionally found in ponds in the south of England, but it is rare. It was a popular spice in medieval times. .

Cytisus scoparius

Broom

Native shrub *Fabaceae*

This species is common on waste ground throughout the British Isles It is disliked by farmers because its foliage contains toxic alkaloids and often poisons livestock.

Food: Broom flower buds were once commonly pickled like Capers. The roasted seeds have been used as a coffee substitute. However some people say the whole plant is dangerous and caution against using any part of it.

Medicine: This shrub was once widely used as a medicinal herb, but is too toxic for inexperienced users. The leaves were used as a diuretic and the seeds as an emetic. The plant contains heart stimulants and vasodilators and has been used like Digitalis to regulate the heart.

Brooms: The flexible twigs of Broom were the original brooms (the latin word scopa means brush). They were bound into tight bundles, the butt ends cut off flush and a handle was hammered in.

Baskets: The twigs were used for basket making.

Fiber: The bark fibers have been used like Flax (*Linum*) for cord, rope, paper and even cloth.

Wood: The wood is attractive and nicely grained, though rarely of sufficient size for anything except firewood. The branches and twigs make good kindling and can be tied in bundles for firewood.

Animal food: Broom flowers are very attractive to bees even though they produce little nectar, their value being as a source of pollen. The shrub has been planted as shelter for game birds.

Visions: Broom contains numerous alkaloids, some of which are probably hallucinogenic. However the plant is definitely more toxic than euphoric and use as an intoxicant is quite dangerous.

Horticultural uses: Broom is sometimes planted in hedgerows, as it is tough, layers easily and can grow and prosper on the poorest of soils. It has also been used to stabilise sand dunes, prevent erosion,

enrich poor soils so they will support more valuable plants and as a windbreak and nurse tree to protect tender tree seedlings. Broom is beneficial to the soil as it has the ability to fix its own nitrogen and has a deep penetrating root system. Broom accumulates calcium and is a good fertilizer (if you burn the wood, put the ashes on the garden).

Cultivation: Broom can be grown from cuttings, layering or ripe seed (scarify in acid or nick with a file to penetrate the seed coat and soak overnight prior to planting). It prefers well-drained soil with full sun. Once established it often self seeds and can become a pest. In time of drought it may also be a fire hazard.

Daucus carota

Queen Anne's Lace

Native biennial *Apiaceae*

This common weed is also known as Wild Carrot, because it is the wild form of the garden carrot. It is common throughout most of Britain (except the far north) in fields and waste ground. Of course carrots are grown almost everywhere and so can often be found as an escape. Its kinship with the carrot is not immediately obvious from the appearance of the thin white root, but the smell is instantly recognizable, as is the flavor.

Caution: Be careful when gathering any species that doesn't have flowers for positive identification, as some members of the *Apiaceae* are very poisonous. Some people warn that this species is poisonous. It isn't, but the finely divided leaves do resemble those of the highly dangerous Poison Hemlock (*Conium) and* could be confused with it. Don't gather this plant until you can positively identify that very poisonous species.

Root gathering: The roots of this biennial can be gathered for food from the end of their first year of growth, up until they start growing again the following spring. Plants at the right stage of growth are found by looking for mature plants with flowers and then searching nearby for the feathery rosettes of leaves.

Root preparation: The roots can be eaten raw, or cooked, like garden carrots, but aren't nearly as fleshy. They have a wiry core which is best removed. This is most easily done after they are cooked (cooking also makes them sweeter).

Drink: The roots have been used as a coffee substitute like Chicory (*Cichorium*).

Greens: The tender new spring foliage can be added to salads and soups.

Seed: The aromatic seeds are rather bitter, but have been used for tea and to flavor liqueurs. It has also been used like Caraway (*Carum*) for flavoring soups and sauces.

Flowers: The flowers have been fried in tempura batter.

Medicine: For medicinal purposes Wild Carrot is said to be stronger and more vital than the cultivated form. A poultice of the root has been used for skin infections and makes a good face pack for cosmetic purposes. A tea of the seed or leaves has been used as a diuretic, urinary antiseptic, carminative and digestive.

Reportedly a tea made from 1 teaspoon of seeds in a cup of water was once used as a "morning after pill", in the belief it could prevent pregnancy. I don't think I would depend upon such a remedy, but you would think that for such a use to persist it must presumably have worked to some extent (wouldn't you?).

Domestic carrots are said to be beneficial to the liver and have been used to treat jaundice. They are also said to build healthy blood and even help to prevent cancer. Most of its health-building qualities are probably due to the very high carotene (vitamin A precursor) content, though this is lacking in the wild types.

Eradication: Wild Carrot is a common weed of waste ground and spreads easily by means of its abundant seed. The best way to eliminate them is to dig the roots of first year plants and eat them, which of course prevents this biennial from ever flowering. You can also cut the flowering tops off second year plants (use them as cut flowers), before they set seed. If you do this for several years you will eventually eliminate the plant (you might even miss it).

Cultivation: The plant is so common in most areas there is little point in cultivating it, but if you wish to do so, treat it like garden carrot.

Descurainia sophia

Tansy Mustard

Native annual *Brassicaceae*

The leaves of this rather uncommon plant have been used as a salad or potherb. The seeds have been used like Mustard (*Brassica*).

Diplotaxis muralis

Wall Mustard

Introduced annual *Brassicaceae*

This species is often common in parts of southwestern England. It can be used as a salad or potherb, just like all the other cresses and mustards.

Dryas octopetala

Mountain Avens

Native perennial *Rosaceae*

This really is a mountain species, so it is rare in Britain, except the highlands of Scotland.

Drink: The leaves of this shrub have been used for tea, but it's really too rare to use in this country.

Cultivation: This pretty perennial is propagated by seed or division. It thrives in dry poor soils, as it fixes atmospheric nitrogen.

Echinophorum spinosa

Prickly Samphire

Perennial *Apiaceae*

The roots have been eaten like carrots. The leaves have been used like those of Samphire (*Crithmum*) in salads and as a potherb or pickle.

Elymus arenarius

Lyme Grass

Syn *Leymus arenarius*

Circumboreal native perennial *Poaceae*

This species can be found on coastal sand dunes. Many wild grasses produce edible seed, but very few produce large seeds in sufficient quantity to be useful for human food. This species is an important exception and has been used for food wherever it is found. This plant is protected in many areas, as it roots bind and hold sand dunes in place.

Native Americans sometimes chewed the young stems for their sweet juice.

Caution: Be careful when gathering this, or any other, grass seed to ensure that it is not parasitized with the very toxic Ergot fungus. This is fairly obvious when it occurs because large dark spurs replace some of the grains in the head.

Preparation: Before the grain is fit to eat the outer husks must be removed. This can be done by toasting it in a heavy sieve or frying pan, shaking constantly to prevent burning. An easier method is to

parch it in an oven at 175°C for three hours. The parched seed is then beaten to loosen the chaff and winnowed to separate it from the seed. The cleaned rice can be used immediately or dried for storage.

Use: The grain can be used like Rice. Boil a cup of rice in two cups of water for 30 minutes, it swells up to two or three times its original volume. It can also be cooked with honey and wild fruits as a dessert, or toasted as a snack.

The grain has also been dried and ground to flour for use in porridge, baking (often mixed with an equal amount of wheat flour) and for thickening soup.

Roofing: The leaves and stems have been used for thatching roofs.

Arrows: The straight stems were used for arrows.

Cultivation: Lyme grass is a perennial relative of Rye and has potential as a perennial grain crop. It thrives in harsh coastal climates, where few crops do well (it was once cultivated in Iceland). It is also quite ornamental and has been grown solely for this. Propagate from seed, or by division, in light sandy soils.

Related species:

The seed of all other *Elymus* species can be used in the same ways, though they aren't as good.

Empetrum nigrum

Crowberry

Native shrub *Ericaceae*

This creeping evergreen shrub is quite common in moors and mountains in Scotland, Wales and Northern England. The seedy little fruits aren't particularly palatable, but they are often abundant in the far north and were commonly eaten by Native Americans in Arctic areas. The berries can often be found on the plants right through the winter and are improved by repeated freezing and thawing. They don't have much flavor raw, so are usually cooked and strained to remove the seeds. The remaining liquid is sweetened and used for preserves, pies, wine and beer. They are often mixed with tastier fruits such as Bilberry or Cranberry (*Vaccinium*). Native Americans froze or dried the whole berries for storage.

Medicine: A tea of the leaves has been used to treat dysentary.

Cultivation: Crowberry has been used as a low growing ground cover and to attract birds. Propagate from semiripe cuttings or layering, in moist, acid soil.

Enteromorpha species

Green Nori

Seaweed *Chlorophyta*

These common seaweeds (*Enteromorpha intestinalis, E. compressa)* may be found in shallow water and rock pools. In Japan they are widely eaten raw in salads, stir fried, in soups, etc. They taste better if toasted lightly.

Epilobium angustifolium

Rosebay Willowherb

Syn *Chamaenerion angustifolium*

Native perennial *Onagraceae*

This species grows on disturbed ground throughout Britain. It is a common pioneer plant on disturbed or damaged soil. In North America it is known as Fireweed because it is one of the first plants to appear after forest fire. The plant fulfils an important ecological niche as a pioneer. Its downy airborne seed enables it to colonize disturbed ground quickly and is sometimes produced so thickly it appears to be snowing in midsummer. The seed is quite long lived and may lay dormant in the soil for years until some disturbance causes light to reach them. The plant quickly produces a thick mat of creeping roots, which bind bare soil and prevent erosion. It also enriches the soil with an abundance of organic matter.

Food: Fireweed isn't one of the tastiest foods, but it forms extensive pure stands and is often abundant. The leaves and stems are rich in vitamins A and C.

Shoots: The young spring shoots are gathered by snapping them off at the base (if they don't snap easily they are too old and will be bitter). They can be cooked for a few minutes like Asparagus (it is sometimes called Wild Asparagus), or chopped in salads. Native Americans split the mature stems and ate the interior pith. This isn't bad raw, but is more often cooked in soups, or added to baking.

The flower buds and flowers can be added to salads.

Drink: The natives of Siberia brewed an alcoholic drink from the pith of the stems and the hallucinogenic Fly Agaric (*Amanita muscariai*) fungus. The result has been said to resemble a cross between gin and LSD. The older leaves can be dried and used to make a tea. Steep three tablespoons of dried leaves in a pot of boiling water for ten minutes.

Medicine: An astringent tea of leaf or root has been used to clean wounds and to treat diarrhea. The spring greens were considered a purifying tonic.

Down: The downy seeds have been used for stuffing clothes and pillows.

Cordage: Native Americans made cord and twine from the fibers that remained after eating the interiors of the stems.

Animal food: The flowers are a source of pollen and nectar for bees and other insects. Many birds eat the seed.

Cultivation: Propagate Fireweed from seed, cuttings or root division, in almost any soil. It is usually considered an invasive weed though.

Garden uses: This beautiful plant has a long blooming period in summer, as the flower spike is indeterminate. Unfortunately it is unsuitable for most flower gardens because of its size and vigor. It can quickly become a nuisance, as it spreads both by self-sown seed and creeping roots. The large volume of organic matter makes Fireweed useful as green manure, or as an addition to the compost pile (just make sure it doesn't contain seeds). It has been used as a pioneer plant, to stabilize sand dunes and other loose or eroded soils.

Related species include:

E. hirsutum - Hairy Willow Herb

E. latifolium - River Beauty

E. montanum

These species are all better food than the above.

Equisetum palustre

Equisetum arvense

Horsetails

Throughout *Equisetaceae*

History: The primitive Horsetails are an ancient group of plants that reproduce by means of spores rather than seeds. They were the dominant species on earth about 300 million years ago and are still doing well, though there are only about 25 species left in this one genus. They helped form the coal and oil deposits we use today and are the only 300 million year old plants still of use. They can be found growing in wet soils throughout Britain.

Caution: Domesticated animals are quite frequently poisoned by eating the mature plants, as they contain thiaminase, an enzyme that destroys the essential B vitamin thiamine. Some people state categorically that Horsetails are poisonous and no part should ever be eaten. Others eat the shoots in spring. I would advise against eating any part of them though.

Shoots: The tender tips of the naked fertile shoots are gathered just after they emerge from the ground and peeled to remove the tough skin. The juicy interior may then be eaten raw. More often they are cooked in two or three changes of water for 20 minutes. Native Americans dried and ground the shoots of related species to flour, for making porridge or bread. They also ate the interior of older stems.

Medicine: An astringent tea of the stems is antiseptic and styptic and has been used externally for skin sores and wounds.

The mineral rich tea contains calcium, iron, silica, sulfur and selenium and herbalists sometimes recommend it to treat anemia, speed the healing of broken bones and for mineral deficiencies. It has also been used as a diuretic, though in excess it may irritate the kidneys.

Scouring: The abrasive stems contain silica and have long been used for scouring and cleaning things. This is why they are also called Scouring Rush and Pewterwort. They are also used by campers to clean pots, though it is usually less destructive to just use sand (also silica).

Native Americans used the stems to smooth arrows and to sharpen metal knives. More recently they have been found to be ideal for shaping the reeds of clarinets.

Glass: Ash from the burned stems contains almost 80% silica and was once used for making glass.

Fertilizer: Horsetail is often considered to be a noxious weed, but don't be too hasty to eliminate it from your garden. The plant is prized by Biodynamic gardeners for its ability to concentrate minerals. It makes a fine fertilizer, either composted or used in liquid form (see *Symphytum*). A liquid feed of Horsetail has been used to treat fungus diseases. The abrasive stems are said to be repellant to slugs and snails.

Cultivation: The Horsetails can be persistent weeds of poor damp soils and are not popular with most gardeners. The simplest way to eradicate them is to change the growing conditions to favor more vigorous plants, by fertilizing and draining the soil. More imaginative gardeners use them as ornamentals, as their unusual appearance is very striking. They are most easily propagated by root division and grow best on poor wet soils with some shade.

Related species:

All *Equisetum* species can be used for non-food uses.

Erucastrum gallicum

Hairy Rocket

Native annual *Brassicaceae*

The leaves have been used like those of Wintercress (*Barbarea*), but it is too rare for common use.

Eriophorum species

Cotton Grasses

North and mountains *Cyperaceae*

These species can be found on acid moorland in northern areas. They would be insignificant as food plants if they didn't grow where few other edible plants can be found. The base of the stem can be eaten like that of the related Sedges (*Carex*)).

Erodium cicutarium

Common Storksbill

Native annual *Geraniaceae*

This species is quite common in some areas of southern England, but is rare elsewhere.

Greens: In mild climates Storksbill stays green and edible all through the winter and is a valuable source of vitamins and minerals. It is at its best in spring, when the tender new growth can be eaten raw in salads (though it may be a bit fuzzy). Older, less succulent, foliage can be used as a potherb if cooked in a change of water for 20 minutes. The flowers can be used to add color to salads.

Medicine: The plant is s nutritious addition to green drinks.

Cultivation: Storksbill is sometimes cultivated as a forage plant to feed livestock. It is easily grown from seed and does well in most soil types. It naturalizes so readily it can easily become a weed.

The mature fruit splits into five beautiful spiral seeds, which unwind when wet and can actually screw themselves into the ground. They aren't of any use (they are sharp and can be quite painful) but they are amazing.

Related species:

E. moschatum – Musky Storksbill

Use as above.

Eruca sativa

Rocket

Syn *E. vesicaria*

Naturalised *Brassicaceae*

This cultivated salad plant is often naturalised locally, or may be found as an escape. Like many members of the *Brassicaceae* it is best in spring, when young and tender and gets unpleasantly pungent in hot weather. It has become quite fashionable as a salad plant of late, under its Italian name of Arugala and is very common in prepared salad mixes. It's a plant people tend to either love or hate, I don't like it very much, but I know people who find it almost irresistible and crave it. If you don't like it raw, try it in soups or as a potherb, as cooking changes the flavor a lot.

Cultivation: Rocket is easily grown from seed in any good garden soil. It is definitely a cool weather crop. In hot weather it gets very pungent and flowers almost as soon as it has produced a few leaves. It self sows readily and can become a minor weed.

Eryngium maritimum

Sea Holly

Native perennial *Apiaceae*

Sea Holly is found around the coast of England, Wales and Ireland and is quite common. The plant isn't related to Holly, but the spiny bluish coloured leaves somewhat resemble the leaves of that plant, hence the common name . It also resembles the Thistles but again it isn't closely related. Like many coastal plants it has become less common in recent years, so should probably not be used . If you really want to eat it then try growing it yourself.

Food: The long edible roots were gathered while dormant and cooked like carrots. They were once commonly candied as a confection. The young leaves and flower shoots have been cooked and eaten on occasion. It was once thought to be an aphrodisiac.

Cultivation: Several *Eryngium* species are popular ornamentals. They prefer light, well-drained soils and full sun. They can be grown from seed, planted when ripe in autumn, root cuttings (easy) or division of crowns.

Related species:

E. campestre - Field Eryngo

This species can be used as above, but shouldn't be because it's very rare in Britain.

Euonymous europaeus

Spindle Tree

Native tree *Celastraceae*

This common species is not edible. I have included it because the fruits contain a powerful insecticide and so has potential uses for gardeners. The plant gets its name because the wood was once used to make spindles and skewers. The wood was also used for pipestems. This plant coppices well. It is an alternate host for bean aphids, so is not welcome around many gardens.

Euphorbia lathyrus

Caper Spurge

Introduced biennial *Euphorbiaceae*

This plant is native, but is most often found as a garden escape (mostly in the south of England).

Caution: Caper Spurge is not edible. It contains a poisonous latex and cases of livestock poisoning from it are well documented. This latex contains hydrocarbons similar to those found in crude oil and has a number of potential uses. The plant makes hydrocarbons by removing oxygen atoms from some of the carbohydrates (molecules of carbon, hydrogen and oxygen) it produces by photosynthesis.

Seeds: After careful preparation the seeds have been pickled and eaten like Capers, but they are somewhat bitter. This explains the origin of the common name.

However all parts have caused poisoning so this use is probably inadvisable.

Fish poison: The seeds were once used to poison fish.

Hydrocarbons: Caper Spurge as been investigated as a potential renewable source of hydrocarbons for use as fuel and for making plastics and lubricants.

Hydrocarbons can be extracted from the plants by drying, crushing and boiling in a solvent such as heptane. This is evaporated to leave a crude oily residue, which can be distilled (like crude oil) to yield a wide range of useful products.

It has been estimated that an acre of the plants could yield up to 900 pounds of oil annually. Breeding for maximum hydrocarbon content could perhaps double this. An additional fuel could be obtained by fermenting the crushed stems to produce alcohol (though one must first convert the starch and cellulose into simple sugars), or simply pressing them into logs for firewood. This isn't economical at present while fossil hydrocarbons can be obtained for less than the price of some bottled water, but might it be significant in the future

Crop plant: When the price of oil increases dramatically these plants could become an important commercial crop. It was previously thought that they could be grown on marginal desert land, but they don't produce very well unless irrigated.

Cultivation: Caper Spurge is easily grown from seed in most soil types. It is very drought tolerant and will grow on as little as twelve inches of rain a year. The harvest takes about seven months from seed.

Horticultural uses: The plant can reach ten feet in height and makes an interesting temporary deciduous screen.

A more controversial use of the plant is indicated by two of its common names; Mole Plant in Britain and Gopher Plant in the U.S. It is said to be abhorrent to these creatures and if planted around a garden will supposedly keep them from coming near. Some people report it is useless (to the point where moles have actually pushed it out of the ground), while others say it works very well. They say the secret is to plant them close together so they form a continuous barrier. It is hard to judge when something like this actually works, without doing carefully controlled experiments (it is easier to know when it doesn't). My feeling is that even though they don't like it, they have to live somewhere and so won't be deterred by it too much.

Fagopyrum tataricum

Tartary Buckwheat

Introduced annual *Polygonaceae*

Tartary Buckwheat was originally introduced as a food crop, but is now an agricultural pest in some areas.

Seed: The seeds of Tartary Buckwheat are smaller than those of its cousin, but can be used in the same ways. Of course you are unlikely to gather enough to do much from wild plants. Gather whole plants as the first seed ripens and dry in a warm place. Then thresh and winnow to obtain clean grain. The seeds can be eaten raw in cereals, boiled whole like Rice, coarsely ground to make a porridge called kasha, or finely ground to meal for baking bread and making pancakes.

Greens: The seeds can be sprouted like Peppergrass (see *Lepidium*) on wet paper towels, to produce nutritious salad greens in a few days.

Animal food: Buckwheat flowers are a good source of nectar for bees and the honey produced from them is considered to be one of the best tasting of all.

Fertilizer: Fast growing Buckwheat (or Tartary Buckwheat) is one of the best green manure crops for the garden. It quickly produces an abundance of organic matter and smothers almost all weedy competitors, however it must be sown thickly and can't stand frost, so is not a good winter cover crop in many areas. It is very important to dig it into the ground before it sets seed, as it can easily become a weed.

Related species:

Fagopyrum esculentum

Buckwheat

This species is occasionally found as an escape.

Fagus sylvestris

Beech

Native tree *Fagaceae*

The Beech is not only one of the most beautiful of British trees, it is also one of the few native nut bearers. It is only native to southern Britain, but very widely planted and naturalised in the north.

Nuts: The Beech is hardier than most other nut bearing trees and tends to be more valued in northern areas, where few other nuts are available. In my experience the wild harvest is often unsatisfactory. In inhospitable climates the shells are often empty as a result of incomplete fertilization and the nuts are only produced in quantity every few years. Nevertheless Beechnuts have been called a great neglected delicacy and in a good year the oily nutritious seeds are certainly worth attention.

The kernels are about the same size as Sunflower seeds and can be eaten like them as a snack, or in breads and cereals. Native Americans dried and ground the kernels to flour, for baking and porridge. The germinating seeds taste pretty good, so you might try sprouting them.

Oil: Beechnut oil is considered as good as that from Olives and like that oil it stays sweet for several years without refrigeration. Native Americans extracted it by boiling the crushed nuts and skimming the oil off the surface as it rises. In Europe the oil is extracted by pressing.

Other foods: In spring the newly opened leaves can be added to salads, or used as a potherb. The inner bark was used for making bread in times of famine (See *Ulmus*).

Drink: Beechnuts were once a common coffee substitute. A teaspoon of the roasted, ground seeds were steeped in a cup of boiling water for fifteen minutes.

Medicine: Native Americans used a poultice, or tea, of the leaves to treat wounds, skin sores and frostbite. They are said to be mildly antiseptic.

Beds: In Europe the newly fallen leaves were once used for stuffing mattresses and were considered superior to straw. If you try this make sure they are completely dry, or you might end up sleeping on a compost pile.

Smoke: The same dried leaves were occasionally smoked like Tobacco, alone or with more aromatic herbs. This would no doubt be convenient for those misguided individuals who persist in smoking in bed, as they could actually smoke the bed.

Wood: Beech wood is close grained, hard, shock resistant and bends well, but also difficult to season without cracking. It is used for tool handles, clubs, mallets, wooden tools (such as plane blocks), clogs, kitchenware, cabinetmaking and parquet flooring.

Itinerant craftsmen known as *bodgers* once lived out in the beech woods, turning the green wood into components for chairs.

Firewood: The wood is good fuel, giving about 24 million Btu per cord. It was once widely used for making charcoal.

Oil: Inferior, old, or tainted beechnut oil was used for paint and varnish, or burned in lamps.

Animal food: Beechnuts are important food for wildlife.

Cultivation: Propagate from ripe seed, sown in autumn or stratified for three months at 4°C. It has a shallow root system and transplants easily, so you can often transplant seedlings from around mature trees. Superior cultivars can be whip grafted.

Horticultural uses: These beautiful trees are widely planted as ornamentals in large gardens and parks. A number of cultivars are available, the most notable of which is probably the lovely bronze colored European Copper Beech (*F. sylvatica*).

Beeches have been grown as hedges and young plants (though deciduous) usually retain their dead leaves until spring. These species are almost never planted as nut producers, though the tree crop expert J Russell Smith thought that careful selection and breeding for larger nuts could make them as valuable as the Walnut.

Fertilizer:The established trees produce a deep mulch of leaf litter and this is prized by gardeners as mulch, or for composting for leaf mold.

Filipendula ulmaria

Meadowsweet

Native perennial *Rosaceae*

Meadowsweet is common throughout Britain on moist soils.

Drinks: The pleasantly scented flower heads have been used to flavor beer, wine, mead and summer drinks. Both the flowers and leaves have been used to make a pleasant tea. The dried leaves develop a distincitve new mown hay scent and may be used as flavoring like Woodruff.

Medicine: Meadowsweet contains salicin, the same pain killing substance which is found in Willow (*Salix*) bark. This is a close chemical relative of aspirin (acetyl salicylic acid), which actually gets its name from *Spiraea*, an old name for this plant. A tea of the dried leaves was used to treat diarrhea and as a diuretic and tonic.

Scent: Dried Meadowsweet was once commonly included in sachets, which were put in drawers to scent clothing. The fresh plant was used as a strewing herb. The plant was sacred to the Druids.

Cultivation: Propagate from seed or root division in rich moist soil and full sun.

Related species:

Filipendula vulgaris

Dropwort

This species produces an edible (if not very palatable) tuberous root.

Foeniculum vulgare

Fennel

Native perennial *Apiaceae*

Though Fennel is native to Britain, in most areas the plants you find are likely to be escapes from cultivation. It is most commonly found near the coast in England and Wales and can form large colonies. It is quite invasive, forming dense colonies and crowding out native plants, so you need have no qualms about gathering it from the wild. It has the same distinctive Licoricelike flavor as Anise and this, along with its yellow flowers, makes it easy to identify. This is fortunate as it is a member of the *Apiaceae* which contains a number of dangerously toxic species. All above ground parts are edible.

Greens: The tender spring shoots are rich in vitamins A and C and can be eaten like Celery. Use in salads, as a cooked vegetable and in soups. The succulent leafy tips are an interesting and tasty addition to salads. As the plants mature they become rather tough, though the leaf stalks may still be palatable when 4 to 6" long. Simply strip them from the plant, remove the tough leaves and use like the spring shoots.

Seed: The flowers, leaves and seed are used for flavoring. Apparently they contain substances that can help prevent edible fats from oxidizing and turning rancid. They can also be used to make a sweet tea (steep for 5 to10 minutes) and have been used as a flavoring for liqueurs

Medicine: Fennel seed is a carminative and stomachic and is a traditional remedy for digestive ailments. It can be taken as a tea, or simply eaten after meals, to aid digestion and freshen the breath. It has also been used to promote menstruation and lactation and was once widely used as a diuretic (often with Juniper berries). The herbalist Sebastian Kneipp claimed that the tea was useful for eliminating toxins from the body and also recommended adding it to bathwater for the same purpose. The same tea is a soothing wash for sore eyes.

This strongly flavored plant is useful for disguising the taste of less pleasant medicinal herbs.

It has been said that large doses of Fennel oil can cause hallucinations. Apparently the body converts it into a kind of amphetamine.

Strewing herb: The aromatic stems were used as a strewing herb in medieval homes and churches and may have insect repellant properties.

Oil: Fennel seed oil is used in perfumes and to flavor toothpaste and candy.

Cultivation: The plant grows well in most neutral, well-drained sunny soils and is propagated from seed or division. It is very drought resistant and self-sows readily. In mild climates Fennel grows

vigorously and needs little attention once established. It can get quite large, so is best planted away by itself in the wild garden, or confined by a barrier.

Horticultural uses: Fennel flowers attract beneficial predatory insects to the garden and are sometimes planted solely for this purpose.

Fragaria vesca

Wild Strawberry

Native perennial *Rosaceae*

There are Wild Strawberries growing all over the Northern Hemisphere and it is common and widespread in woods throughout Britain. Even if you have never seen a Wild Strawberry you will recognize them, because they are merely smaller versions of the familiar fruit.

Fruit: These are one of the best tasting wild fruits; the only drawback is their small size. I don't have the patience to gather more than a cup or so, but some people gather them by the bucketful.

Preparation: You surely don't need any advice on preparing these fruits. They are best eaten raw out of hand, though they can be eaten with a lot of things. They can be used to make delicious raw preserves, though the nearest I have got to this (or any recipe) is to simply crush them to make syrup for pancakes. It has been suggested that they be dried for later use, but freezing is better.

Greens: The leaves can be gathered before the flowers appear and used for tea. They are very rich in vitamin C, but don't have much flavor, so are usually mixed with tastier herbs.

Medicine: Strawberries themselves are of little importance as medicine, though they are a mild laxative and have been used as a poultice to treat sunburn. Recent research has come up with an interesting property for Strawberries. Apparently the fruits are rich in ellagic acid a substance that helps protect body cells from cancer. If you ever need an excuse to eat Strawberries, this is it.

The vitamin-rich leaves are more important as medicine than the fruits and even today are used in some commercial diarrhea remedies. The tea is a good gargle for sore throats.

Tooth cleaner: The fruits are said to help clean the teeth; just keep a berry on your teeth for 5 minutes to remove the stains and then brush with baking soda.

Cultivation: If you want wild Strawberries in your garden I would advise you to get a variety of Alpine Strawberries. These are improved wild plants with larger fruits and a longer fruiting season (I have harvested fruits from my plants for eight months continuously). They like rich, slightly acid soil and are easily grown from seed. If planted early enough they will fruit the same year. They are pretty enough to use as a border or ground cover, though they don't produce runners. They self-seed readily and generally take care of themselves.

Garden companions: Strawberries grow well under Pines and are often mulched with the needles.

Related species include:

F. X ananassa - Garden Strawberry

F. moschata - Hautbois Strawberry

Both of these species can often be found as escapes. They are larger than the Wild Strawberry.

Frangula alnus

Alder Buckthorn

Native shrub, small tree *Rhamnaceae*

This species (like its namesake Alder) is found in wet soils and marshes. It is not uncommon in England and Wales, but gets rarer further north. It isn't edible, but is notable because it was said to produce the best charcoal of any wood in Britain. In World War Two it was sought out and cut on a large scale to make gunpowder for fuses. It coppices well and might still be grown for charcoal.

Fraxinus excelsior

Ash

Native tree *Oleaceae*

The Ash is very common in woods and hedgerows throughout Britain.

Food: The Ash has long been an important tree in legend and commerce. Surprisingly it can also be a food source. The very young fruits (samaras) known as keys were once quite popular pickled. They are cooked in a change of water to remove their bitterness and then pickled. If this is done right they can be quite good.

Medicine: Ash bark has been used as an astringent. A tea of the leaves has been used as a diuretic and laxative. This is said to aid in the elimination of uric acid, so is used to treat rheumatism.

Wood: The Ash was once an important timber tree. The wood is very strong and tougher and more elastic than any other common European tree (especially when grown fast). It also cleaves easily along the grain. It has long been used for coachbuilding, boatbuilding, cabinetmaking (especially that with wavy grain), wheel rims oars, rudders and even for aeroplanes. The wood bends easily so was once widely used for making Windsor chairs.

Ash coppices well and was once coppiced to produce poles for Hop poles, tent pegs, chairs, ladders, fencing, farming implements, hay rakes, clubs, walking sticks, tool handles.

Ash splits readily along the growth rings and the long strips thus obtained have been used for wattle hurdles, basket weaving and barrel hoops.

Fuel: Ash wood is one of the best English firewoods and it is said that it will even burn when green.

Cultivation: The fast growing Ash likes slightly alkaline soils and can grow on chalk uplands where few other trees can. It likes a moist, but well-drained soil. It is quite tolerant of air pollution so does well in cities. Propagate from seed planted as soon as ripe. The seedlings are quite tolerant of shade.

Ash was once very widely coppiced (planted 10 feet apart) and also pollarded. It was cut on a 10 to 25 year rotation, depending upon the use.

Fucus vesiculosus

Bladderwrack

Perennial seaweed *Phaeophyta*

Food: The young inflated tips of this very common seaweed have been eaten raw or cooked in spring, but are most often used as a stock for soups and sauces (boil for the desired time and then remove the fibrous parts). They have also been used for tea. They are a good source of iodine. The fronds have been dried and powdered like those of Kelp for use as a nutritional supplement.

Other uses: Bladderwrack is very common and widely distributed and is a favorite seaweed for fertilizer. Use like Kelp (see *Alaria*).

Galeopsis tetrahit

Hemp Nettle

Native perennial *Lamiaceae*

Hemp Nettle is common in fields, woods and waste places throughout Britain.

Food: The tender young leaves can be used as a pot herb or salad herb in spring.

Medicine: Hemp Nettle has been used as an expectorant.

Fibre: This plant got its common name because the stems were once used as a source of fibre like Hemp.

Cultivation: Easily grown from seed, it is popular as an ornamental.

Galinsoga species

Quickweed

Introduced annual *Asteraceae*

Also known as Gallant Soldier, a corruption of the generic name and a most appropriate name for such an intrepid little plant. This South American weed *(Galinsoga ciliata or G. parviflora)* is naturalised in parts of the south, as a weed of waste ground. It is rather too hairy to be eaten raw, but makes a passable pot herb (though not outstanding).

Cultivation: Quickweed spreads by means of its prolifically produced seed which stick to clothing, fur, etc. It prefers part shade and grows well underneath large plants so can become a garden weed.

Galium aparine

Goosegrass

Native annual *Rubiaceae*

This species is common throught Britain in woods, hedgerows and waste places. All surfaces of this weak stemmed, clinging plant are covered in minute hooks (they are the closest thing to vegetable Velcro) that enable it to support itself by grabbing onto surrounding vegetation. The fruits are also hooked and attach themselves to passing animals for dispersal. By this means it has spread from its native Europe to most countries of the world.

The dried plant has the distinctive smell of new mown hay, which is caused by a glycoside called coumarin (the same substance found in Sweet Clover). If Goosegrass hay becomes spoiled, the coumarin may be converted into the anticoagulant di-coumarol and become toxic. See (*Melilotus*) for more on this.

Greens: In spring the foliage can be used as a potherb until it starts to set fruit, alone or with other plants. It isn't good raw because of the aforementioned hooks. The dried plant can be used as a culinary herb, but should be dried quickly, or toxins may develop.

Drink: This plant is a distant relative of Coffee and if you can gather enough seeds they can be used to make one of the best wild substitutes for that drink. They are gathered as they ripen in early summer, roasted at 150˚ C for about an hour until dark brown, crushed or ground to powder and used like Coffee. The problem is gathering enough of the seeds.

Medicine: A poultice, or an astringent wash, of the leaves was used for wounds, bleeding, burns and skin sores. A tea of the leaves is rich in minerals and was said to help hasten the healing of broken bones. The tea was also used as a liver tonic, blood purifier (especially for skin problems) and diuretic. It is also believed to be beneficial for the lymph system.

Dicoumarol has important medicinal uses, but should only be used under medical supervision.

Other uses: The leaf tea has been used as a hair rinse to cure dandruff and to stimulate hair growth. The hooked stems were used as a crude sieve. The dried plants have been used in potpourri and as a strewing herb.

Animal food: Birds relish Goosegrass seeds (hence the name) and it has been planted, or encouraged, as feed for domestic poultry. Many wild and domesticated animals eat the foliage.

Cultivation: Goosegrass thrives in almost any situation from deep shade to full sun. It is grown from seed, in any average soil.

Related species include:

Galium verum

Lady's Bedstraw

Used as above. Supposedly this plant got its name because it was put into women's mattresses to help them get pregnant. It is a good groundcover plant.

Galium odoratum

Sweet Woodruff

Syn Asperula odorata

This species isn't used for greens, but has been dried and used to flavor wines, aperitifs, liqueurs and summer drinks. It is best gathered before the flowers appear. It can also be used fresh or dried to make tea.

Gaultheria shallon

Salal Berry

Escape *Ericaceae*

This evergreen species is native to the northwestern United States. It is planted as food for pheasants in this country and is locally naturalised in some areas, on heaths and peat bogs.

Berries: The tasty blue-black berries are often produced in abundance and were an important food for Native Americans (the common name is theirs). The famous botanical explorer David Douglas thought it had potential as a commercial fruit.

The fruit are good raw, or can be used like Blueberries in pies, syrup and preserves. Native Americans crushed them into cakes and dried them for traveling and winter use.

Drink: The berries can be made into a beverage like that described under Bearberry (see *Arctostaphylos*).

Wreaths: The branches are collected and sold to florists, for use in wreaths and other floral decorations.

Cultivation: Douglas was right when he thought of cultivating Salal, as it could be a useful soft fruit crop. It deserves to be more widely grown. It likes a rich, moist soil with lots of organic matter and is propagated from seed, layering or cuttings. It may grow up to eight feet in height so can also be useful in landscaping. It is quite tolerant of shade.

Gelidium species

Jelly Plants

Native seaweeds *Rhodophyta*

These common species (*Gelidium latifolium and G. sesquipedale)* grow in shallow water on the mid shore. They have been used as sources of alginates (hence the name Jelly plant). They aren't good raw, so are sun dried to eliminate an unpleasant flavor. They are used like Irish Moss (*Chondrus*).

Related species are harvested commercially as a source of alginates for use as food additives (as thickening, gelling and suspending agents). They are also used in the pharmaceutical industry.

Genista tinctoria

Dyers Greenweed

Native shrub *Fabaceae*

This shrub is quite common in England and Wales.

The buds have been pickled like those of Broom. It gets its name because the flowering tops were used as a yellow dye.

Geum rivale

Water Avens

Native perennial *Rosaceae*

This species is circumboreal, which means it grows all around the Northern hemisphere. It is common in moist soils throughout most of Britain, except the far north.

Drink: The roots of this species can be used to make a drink, simply boil a cup of clean chopped root for 10 to 20 minutes (or steep overnight in cold water) and add honey and milk to taste. The drink is sour and astringent unless they are added, as milk counteracts the tannin, while the honey adds sweetness.

Medicine: The astringent, antiseptic roots have been used for wounds and were used for treating sore throats and diarrhea.

Cultivation: Water Avens is fairly easy to grow from seed or root division and likes wet soil and some sun.

Related species include:

Geum urbanum

Wood Avens

The very young leaves of Wood Avens can be used as a pot herb, while the aromatic roots have been used to make a drink as above. The roots were once used to flavor wine and were believed to prevent it going bad (a claim which might have some foundation, as the aromatic oil inhibits bacterial growth).

The roots were once added to potpourri and kept with clothes to repel moths.

Cultivate as for Water Avens, though it prefers drier soil (as you might expect).

Gigartina stellata

Irish Moss

Native seaweed *Rhodophyta*

Irish Moss is used like its namesake species (*Chondrus*).

Glaux maritima

Sea Milkwort

Native perennial *Primulaceae*

This species is found in coastal areas all around Britain. The succulent leaves have been eaten raw, pickled or cooked as a pot herb (like many seaside plants it even contains its own salt

Glechoma hederacea

Ground Ivy

Native perennial *Lamiaceae*

This small creeping plant is a close relative of Catmint and is occasionally included in the *Nepeta* genus. It is common in woods, hedgerows and waste places throughout Britain, except in the far north. It often becomes a weed in gardens.

Greens: Small quantities of the mildly aromatic leaves can be added to salads, while still young and tender. They are rich in vitamin C and minerals.

Tea: Ground Ivy is most often used for tea, though you need quite a lot to make a good drink. The plant was once known as Gill-Over-The-Ground, a reminder of the time it was widely used to flavor beer (Anglo-Saxon ale-houses were sometimes called gill houses). Another name was Alehoof.

Medicine: Herbalists used the plant as an expectorant, to soothe mucus membranes and for pulmonary complaints, including tuberculosis, colds, coughs and bronchitis. The plant has long been considered a good blood purifier and has a decided diuretic effect.

The tea or poultice of the leaves has been used externally to treat sunburn, chapped skin and wounds.

Animal food: Like many members of the *Lamiaceae* this is a favorite plant of bees.

Garden uses: Ground Ivy might be useful as a groundcover, if it can be kept in check so it doesn't become a weed. It might also be used in herbal lawns, as it will tolerate light mowing.

Cultivation: Propagate from seed or division. It thrives in sun or shade, in most soil types and spreads rapidly once established (often too rapidly).

Halimione portulacoides

Sea Purslane

Native perennial *Chenopodiaceae*

Though this species isn't closely related to Purslane (*Portulaca*) it does somewhat resemble than plant. As the name suggests it is a maritime plant. It is often quite common on the coasts of England and Wales. The fleshy leaves are good raw in salads, pickled or as a pot herb (like many seaside plants it even contains its own salt

Heracleum sphondylium

Cow Parsnip

Native perennial *Apiaceae*

Cow Parsnip is common throughout Britain in woods, roadsides and waste places. The specific name is derived from Hercules and probably refers to the plants large size. This is a useful wild edible in that it gives a number of edible products.

Caution: Mature Cow Parsnip plants are distinctive, but caution must be exercised when using immature plants for food, as they have been confused with such deadly relatives as Water Hemlock (*Cicuta*) and Poison Hemlock (*Conium*). These are so dangerous that you probably shouldn't use the plant, unless you are very familiar with it.

The skin of this species contains furocoumarins, which causes photodermatitis in some individuals. This occurs when juice from the plants gets on your skin, which is then exposed to sunlight.

Roots: The perennial root can be eaten while dormant in winter. You may be able to locate them by the dead flower stalks and foliage. You can also mark them in summer and return in winter to harvest. I can't stress enough that you must be absolutely sure of your identification when gathering at this stage. The root is usually boiled, in one or more changes of water, to reduce the strong flavor.

Greens: The spring shoots can be gathered as they emerge, peeled and added to salads, or cooked as a potherb. The leaf stalks have been cooked in a change of water, to reduce their strong flavor and used as a vegetable. They are also good in soups.

Stems: The flower stem can be eaten up until the flowers appear and is best just before the flower buds unfurl. It is peeled, cut into sections and boiled. It has also been used raw like Celery, but you should use caution when eating it raw.

Salt: Native Americans used the ashes of the burned stems as a salt substitute. See Coltsfoot (*Tussilago*) for a method of preparation.

Medicine: A tea of the seeds has been used as a carminative and to aid digestion. The root has been used externally for wounds and skin sores.

Cultivation: Cow Parsnip is easy to grow from seed, sown in fall. It likes shady, moist woodland soil, especially near water. It is a very handsome plant and has potential as an edible ornamental.

Hieracium species

Hawkweed

Native perennials *Asteraceae*

Like many members of the *Asteraceae* (*Tagetes*, *Cosmos*, *Matricaria*, *Helianthus*) this species contains substances which can cause dermatitis in a few rare individuals. These species are often quite common.

Food: The young leaves have been used as a pot herb, though they rather astringent and not very good. The gum which exudes from wounds in the plant was chewed by Native Americans.

Medicine: The astringent leaves were used for diarrhea and as a wound herb.

Cultivation: Some species have been used as ornamentals. Propagate by seed or division in most soil types.

Hippophae rhamnoides

Sea Buckthorn

Native shrub or small tree *Eleagnaceae*

This species grows in coastal areas from the Baltic sea to China. It is native only to the east coast of Britain, but can be found all around the British Isles. It suckers freely, often forming dense colonies and so has been widely planted to stabilize sand dunes.

Fruit: The bright orange berries of the deciduous Sea Buckthorn are edible and very rich in vitamins A, C and E and antioxidants. They are too sour to be good raw, but are used for sauces, preserves, liqueurs and in juice drinks. They are commonly cultivated in Eastern Europe and a number of improved cultivars have been produced.

Medicine: Oil from the fruit has been used to treat burns, ulcers and skin diseases.

Wildlife food: The berries are an important source of food for wildlife.

Cultivation: This species has been widely cultivated in cold northern countries, as a source of vitamin rich fruit. Many improved cultivars have been produced, mostly from the formerly communist countries of Eastern Europe. It can grow in very poor soils and as you might expect, it is very tolerant of salt. It likes well-drained soil and can be grown from seed, sown in autumn, greenwood cuttings or root cuttings. When covered in orange berries it is very ornamental. The plants are wind pollinated on separate male and female plants. Only female plants produce fruit, though males are required for pollination.

Hirschfeldia incana

Greek Mustard

Introduced annual *Brassicaceae*

Young leaves used in salads like the other Mustards.

Honckenya peploides

Sea Sandwort

Syn *Arenaria peploides*
Native perennial *Caryophyllaceae*

This species is found in coastal sand dunes and beaches all around the British Isles.

Food: The thick succulent leaves of these maritime plants are rich in vitamins A and C and were an important food in arctic areas where few greens are to be found. They are gathered before the flowers appear, washed thoroughly (to remove grit) and used as a salad, pot herb or pickled. Icelanders fermented the chopped, boiled leaves to make a kind of sauerkraut.

Cultivation: Sandwort likes light sandy soils (in the wild it is usually found on sand dunes) and can be grown from stem cuttings, seed or division.

Hordeum species

Wild Barley

Introduced annual *Poaceae*

Various species can be found over most of Britain.

Food: These are among the best wild grains, because the seeds are so large. The ripe grains are dried in the sun, beaten to remove the loose chaff and then held over a flame to singe, but not burn, the seed coats. This is usually done in either a pan or a sieve and they must be shaken carefully to stop them burning. The grain is then rubbed to loosen the seed coat and finally winnowed to clean it. It can then be ground into flour.

Barley greens: The green juice expressed from the young leaves of cultivated Barley (*H. vulgare)* is said to contain almost all of the nutrients humans require and to have powerful healing properties. It is also said to help protect the body against harmful pollutants such as pesticides, radiation and free radicals. The dried juice is available in natural food stores at high prices, yet the superior fresh juice is easily produced.

To grow Barley for juice extraction, soak the seed overnight and then spread it thinly on a tray of rich, moist soil. The seeds should touch one another so almost no soil is visible underneath them. This is put in a warm, dark place until it starts to germinate and is then brought into the light and watered regularly. It is ready for juice extraction when 8 to 10” high. For maximum nutritional content drink the sweet juice immediately. Of course you can also use the juice of wild plants.

European Barley can be found as an escape in many areas and was occasionally cultivated by Native Americans. The flour is usually mixed with wheat flour for baking bread; the wheat makes the bread lighter, while barley adds a sweet flavor. In Asia Barley is fermented to make *miso*.

Malt: Malted Barley is one of the three essential ingredients for making beer. The malting process basically consists of soaking the grain and leaving it in a warm place to germinate. This causes the seed to convert much of its starch into maltose, a type of sugar that can be used by the yeast in the fermentation process. When the seed has converted most of its starch, it is roasted to stop it growing and to develop its flavor.

Malt extract is also used as a sweetener in baked goods and many commercial foods.

Drinks: Barley flour (or water in which the grain has been boiled) is mixed with lemonade to make a nourishing drink for children and invalids. Sprouted Barley can be roasted as a coffee substitutes. It can be used alone, but is usually mixed with other herbs.

Small beer: Beer was the traditional drink of Northern European peasants and was drunk at almost every meal. You might wonder how they got any work done if they were permanently intoxicated from all that beer, but the beer they drank was commonly small beer. This is much lower in alcohol than ordinary beer and was the soft drink of its day. It is made by re-using the mash left over from brewing beer (waste not, want not) and adding more hops and yeast. If well made it tastes pretty good and probably has commercial potential as a low alcohol beer.

Cultivation: Barley is one of the most adaptable of cereal grains and attractive enough to be grown as an ornamental. Grown from seed, it does well in most soil types, even those too dry or saline for other grain crops.

Horticultural uses: Barley makes an excellent green manure or cover crop. It provides a large amount of biomass in a short time and in mild winter areas will grow through the winter. It is often sown with a legume to add extra nitrogen. *H.pusillum* may have been cultivated as a grain crop by Native Americans.

Best species include:

H. jubatum - Wild Barley

H. murinum - Foxtail Grass

H. pusillum - Little Wild Barley

H. vulgare - Common Barley

Humulus lupulus

Hop

Native perennial vine *Moraceae*

Hop is a common in woods and hedgerows throughout England and Wales.

Greens: The spring shoots are good when cooked like Asparagus, though they have a slightly bitter flavor. They were once a common spring food in Hop growing areas and they are still occasionally found in markets.

Baking powder: Apparently the ripe dried fruits have been ground and used as baking powder. You have to experiment to get the quantity right.

Flowers: The flower cones, gathered when they open in late summer, are full of fragrant yellow powder. They are usually dried for later use.

Tea: The flowers have been used to make a rather bitter tea, though this is drunk more for its sleep inducing properties than for its flavor. They are usually mixed with tastier herbs such as Mint, rather than drunk alone.

Beer: It is fitting that Hop should follow Barley in this book, as they are the indispensable ingredients (along with yeast) of real beer. The aromatic resins in the conelike female flowers not only add their irresistibly delicious flavor and aroma (the essence of summer), but also act as a preservative, which was an important asset when refrigeration didn't exist.

Hops are used in two ways when making beer. They are most often boiled with the wort (the mix of Barley malt and water) for a long period to add bitterness. They may also be added for the last few minutes of boiling, to add aroma and flavor (these are known as finishing Hops). There are specific varieties for each of these purposes.

Medicine: Hop tea is calmative and soothing and was used to promote sleep. The flowers were sewn into bed pillows (known as dream pillows) for the same reason. The plant contains a substance called lupulin, which is one of the closest chemical relatives of THC (the psychoactive substance found in *Cannabis*) and may be a mild depressant.

Hop has been used to reduce stomach acidity, lower blood pressure, as a diuretic and to relieve toothache. It is a mild antibiotic, so is useful for cleaning wounds. This might explain how it helps to preserve beer.

Fiber: The plant is a close relative of Hemp (*Cannabis*) and apparently its stems have been used for cordage.

Cultivation: Hops can be grown from seed, suckers, division or root cuttings. It likes a deep, rich, moist soil, with full sun and needs something to climb on. It is very independent and needs very little care once established. I have seen Hops still thriving in a ghost town that was abandoned in the 1930's.

A persistent rumor among Marijuana growers is that if scions of this plant are grafted onto Hemp rootstocks you get a plant with the psychoactive properties of Hemp, but that looks like a Hop (and so won't attract unwanted attention). There is no truth to this, so unfortunately there will be no psychoactive beer (a potential best seller if ever there was one).

Garden uses: Spent Hops (the stuff remaining after brewing) are sometimes available free from breweries. These are an excellent nitrogen rich fertilizer, mulch, compost material or soil amendment. They have also been used as litter for Chickens and the resulting nitrogen enriched litter is great fertilizer.

Hop is as attractive as it is vigorous and with the right support makes a great deciduous screen. In winter it dies back to the ground and disappears completely.

Hydrocotyle vulgaris

Marsh Pennywort

Throughout *Apiaceae*

Pennywort is common throughout Britain in moist soils. Though common it is so inconspicuous you might not pay any attention to it. It gets the name Pennywort because of its round leaves. This is a member of the Carrot family (*Apiaceae*), but this is not readily apparent unless you examine the small flowers (or taste the leaves they somewhat resemble Parsley).

Caution: The related Asian species Gotu Kola (*H. asiatica*) is said to cause headaches, nausea and other symptoms of toxicity when used excessively. This species are probably safe, but it might be wise to use it in moderation.

Greens: In mild climates the leaves may be available year round. They are a little tough, but can be chopped finely and added to salads and sandwiches. They can also be used as a potherb.

Drink: The dried or fresh leaves have been used as tea. I most often use the plant as a minor addition to a green blender drink (see *Symphytum*).

Medicine: The leaf of Gotu Kola is said to be very beneficial to the brain, improving memory and other functions. I don't know whether this species has any of these properties. The leaves are also diuretic and have been used to purify the blood and eliminate toxins.

Gotu kola is esteemed in India and China as a potent rejuvenating herb and even an elixir of life. One of the more conservative claims concerning its powers was made by the Indian sage Nando Narian. He claimed it could slow aging and prevent disease and apparently lived for 107 years, so perhaps there is a grain of truth to it. If you believe other claims about the plant, young Nando was a mere boy, other people are said to have lived over 300 years with its help.

Pennywort can be used externally as a poultice, or wash, for skin problems.

Cultivation: These plants spread by means of runners and in mild climates are often considered weeds of lawns. They can also be a rugged and productive groundcover, or lawn substitute (it all depends upon your perspective).

These species are easily grown from seed, or runners, in moist soil with full sun. If given enough water they will take care of themselves and even surviving repeated mowing.

Hypericum perforatum

St Johns Wort

Native perennial *Hypericaeae*

Medicine: This common plant is an important medicinal herb, with antibacterial action that makes it an important wound herb. It is also an antidepressant.

Cultivation: St Johns Wort is easily propagated by seeds and quite persistent once established.

Hypochoeris radicata

Cats Ear

Native perennial *Asteraceae*

Cats Ear is very common in fields, meadows and waste ground over most of Britain. This relative of the Dandelion can be used as a salad or pot herb at any time and has little of the bitterness of its cousin. It is a good enough food plant to have occasionally been cultivated

Related Species:

H. maculata - Spotted Cats Ear

This species is much less common than the above, but can be used in the same ways.

Ilex aquifolium

Holly

Native evergreen shrub *Aquifoliaceae*

Holly is common throughout Britain, both as a wild plant and in gardens and parks.

The white wood is hard and close-grained and is good for carving, turning, inlaying and walking sticks. The wood is very good firewood and burns very hot.

The plants are dioecious and only females produce the red berries so associated with Christmas.

Impatiens capensis

Jewelweed

Syn *I. biflora*

Introduced annual *Geraniaceae*

This American plant is naturalised along many rivers and canals in the south of England. It gets its name because raindrops falling on the plant sit in tiny jewellike beads on the leaves. It is also known as Touch Me Not, because the ripe seed pods explode when touched, catapulting their contents several feet (these seeds are edible and taste quite good).

Greens: Jewelweed is sometimes called Lambs Quarters, a name given to several wild potherbs. The succulent young shoots have been gathered when less than six inches tall and steamed for a few minutes.

They contain toxic oxalic acid and have been known to poison livestock, so probably shouldn't be eaten raw, or in quantity.

The leaves are also commonly used for insect bites, Stinging Nettle rash, athletes foot and various skin problems. They contain a fungicide which may be of help in some of these cases.

Related species:

Several other species may be used in the same ways, including:

I. pallida - Pale Touch Me Not

I. glandulifera

I. parviflora

Inula helenium

Elecampane

Native perennial *Asteraceae*

This species was once widely cultivated for food, its medicinal properties and as an ornamental. It is native to Britain, but not very common. Most of the plants you find are likely to be escapes from cultivation.

Roots: The aromatic roots of young plants have been gathered while dormant and cooked like carrots. They were once commonly candied by boiling in sugar syrup.

Drinks: The roots and seeds have been used for tea and for flavoring liqueurs, notably absinthe. I often add a couple of leaves to a green blender drink (see Comfrey - *Symphytum*).

Greens: In spring the rather bitter young leaves can be used as a salad, or potherb.

Medicine: The roots contain an antiseptic (possibly antibiotic) and fungicidal substance called helenin, which can kill bacteria in concentrations as low as 1 in 10,000. A tea of the roots can be used externally for cleaning wounds, skin infections and sores. It was once used as a disinfectant wash after surgery.

The root tea (and candied root) has been used internally as an expectorant and for pulmonary complaints such as asthma, bronchitis and tuberculosis. It is also a diuretic and has been used to purify the body and eliminate kidney stones.

Cultivation: Elecampane may grow up to eight feet in height and with its yellow flowers is an interesting ornamental. It is easily grown from seed or division, in deep, rich moist soil. Established plants self-seed readily by means of airborne seeds. I planted one plant several years ago and soon had more seedlings than I wanted.

Inula crithmoides

Golden Samphire

Native perennial *Asteraceae*

This relative of Elecampane is rare over most of Britain except on the southeast coast. It is used like its namesake Samphire (*Crithmum*), though it isn't as good.

Juglans regia

Walnut

Introduced tree *Juglandaceae*

Walnut is native to southeastern Europe. It was introduced into Britain in the fifteenth century and has been widely planted ever since. It isn't normally found as a wild tree, but mature trees are often seen in parks and gardens. Though native of warmer climates, it can fruit well when growing in awarm, sheltered location. Unfortunately large trees are rare because of the great value of the wood.

Nutrients: The tasty nuts are very nutritious; a pound of kernels providing about 3000 calories, with about 20% easily digested protein, 60% fat and 15% carbohydrate. They are also rich in minerals including calcium, iron, potassium, phosphorus and sulfur. The nuts also contain linolenic acid, an essential fatty acid that is important for healthy brain functioning and ellagic acid which protects against cancer.

Gathering: The nuts must be gathered promptly after they fall to the ground, or wild creatures will take them. Walnut husks cling to the shells after they fall and should be removed with your foot while gathering. It is sometimes possible to gather nuts from hard road surfaces, already husked by passing cars and dried in the sun.

Husks: The husks stain the skin brown and were once used by gypsies to make themselves look darker and more exotic. They have also been used as dye for cloth.

Preparation: Native Americans used to dry the nuts in the sun before removing their husks. To separate out the bad kernels, they put them in water. Good nuts sink, while bad ones float. They then dried and stored the nuts for a while, as their flavor improves with storage.

Uses: The nuts can be used in cakes, biscuits, bread, ice cream, pancakes and salads.

Food bars: Ground walnuts can be used as a base for meal replacement bars. I don't really use a recipe for this, but simply gather together nuts (walnuts, beech, hzel), seeds (sunflower, evening primrose), dried fruits (figs, rose hips, mulberries, apricots) and any suitable food supplements (brewers yeast, powdered kelp, bee pollen, lecithin) and grind them all in a food mill. I then mix everything together, press the sticky mixture into meal-sized bars and wrap them individually in airtight plastic. I don't know how long the prepared bars will stay fresh and wholesome, though I have kept them for a week without refrigeration. They are a great hiking food.

Oil: Native Americans extracted oil from walnut kernels by boiling them and skimming off the oil as it rises to the surface. This is a good way to use the seemingly useless mixture of pulverized bits of meat and shells, you may end up with after shelling. In China, walnut "milk", made from ground walnuts and boiled water, has been fed to babies when human milk wasn't available. It was considered cleaner and more suitable for humans than cow milk.

Pickle: Immature walnuts are esteemed by gourmets, as one of the very best pickles. The whole green nuts (including the husk) are gathered when still soft enough to stick a pin through. They are boiled, their fuzz is removed and they are pickled in vinegar.

Sap: The trees have been tapped like Maples (see *Acer*) to obtain syrup.

Medicine: The astringent bark and leaves have been used to treat wounds, diarrhea and sore throats. An infusion of the leaves of Persian Walnut has been used to treat diabetes, by lowering blood sugar levels.

Cosmetics: Walnut leaves have long been esteemed as a hair rinse and are still found in some expensive herbal shampoos. Native Americans used the brown husks to color graying hair and oil from the nuts as hair oil.

Chewing sticks: Pencil-sized sticks can be chewed to fray the end and used as a brush to clean the teeth and gums. They have antibacterial properties.

Fuel: Walnut is fair firewood, giving about 19 million Btu per cord, but cutting and burning any good size Walnut tree is quite literally burning money.

Wood: Walnut has been called the king (or queen) of woods. It is stable, strong, easily worked, durable in contact with water, ages to a beautiful rich brown color and cleaves easily along the grain (an important quality when all work was done by hand). It was once highly prized for turning and cabinetmaking, though usually the wood was imported from the continent. During the two world wars it was used in large amounts for propellers and gunstocks and this further depleted the already dwindling supply of fine timber trees.

Today walnut is rarely used in solid form, even for fine furniture; instead it is sliced into veneer (a sizeable tree may yield 80,000 square feet of veneer. Any piece of walnut furniture is potentially valuable and antique hunters looking for bargains often scrape away at painted furniture in the hope of finding the rich brown color of walnut beneath.

Other uses: Native Americans used the inner bark fibers for cordage. The brown juice from the hulls can be mixed with vinegar and salt to make ink, or used as a dye for clothing. The oil has been used in lamps and paint.

Horticultural uses: The American tree crop advocate J. Russel Smith urged the widespread planting of walnut trees, calling them "veritable engines of food production" (they may produce up to four tons of nuts per acre). As mature trees disappear this is more important than ever and anyone with sufficient space and climate should think about planting a few trees on a suitable site. There is a saying that you plant these long-lived and slow growing, trees for your grandchildren (they might even be planted as a college fund). In Germany it was once traditional for a young farmer to have to prove he had planted a certain number of walnut trees before he could get married. Mature Walnuts are also attractive shade trees.

Walnuts are notorious for inhibiting neighboring plants (they secrete an allelopathic substance called juglone). This directly inhibits alfalfa, blueberry, apple, tomato and potato plants (among others). For this reason it is inadvisable to plant a fruit or vegetable garden near the trees (or vice versa). Some people even caution against using walnut leaves for mulch or compost.

Cultivation: To grow walnuts you need ripe seed that hasn't ever dried out (drying usually kills them). Ideally you should obtain your seed locally from the best specimen trees you can find. Plant them in rich, deep, moist, well-drained soil and protect from rodents. Walnuts resent transplanting because of their deep taproot, so sow directly, or into cardboard tubes. Germination isn't usually very good, so expect only about 50% survival.

You can also grow walnuts from grafted trees and a number of improved cultivars are available. These start bearing when as young as five years old.

The trees like to grow on sheltered flood plains, where the soil is rich and deep and grow naturally in small groves, forest clearings and edges. They don't like exposed sites, or wet or shallow soils.

If a young walnut gets damaged or deformed in any way (such as from deer or rodents), cut it back to ground level and it will send up straight new shoots. The strongest and straightest of these can be allowed to grow into a new trunk, while the rest are removed.

Juniperus communis

Juniper

Native tree *Cupressaceae*

The Juniper is widely distributed in Britain being common in Scotland, the Lake District and the southeast. It is one of only three native British conifers, though their fleshy cones look very much like berries and are usually thought of as berries. These may take three years to ripen, so there are berries at different stages of ripeness on one plant (the slightly immature fruits are the most aromatic, so use these for flavoring).

Caution: The berries are rich in sugar, but also contain bitter aromatic oils that mask the sweet taste. If eaten in quantity they can cause irritation to the kidneys, digestive system and urinary tract. These oils can also cause abortion if consumed in quantity during the last few months of pregnancy. This is why the plant once received the rather blunt name of Kill Bastard (no beating about the bush there).

Flavoring: The berries are used sparingly for flavoring and their taste resembles Bay leaf. The slightly immature fruits are the most aromatic and are preferred for flavoring. A few berries are often added to cabbage, bean and pea dishes. They can also be chewed to freshen the breath.

Drinks: The berries can be used fresh to make tea, or roasted as a coffee substitute. The green foliage has also been used for tea and is often better than the fruits.

Gin: The most important commercial use of Juniper is as a flavoring for Gin. This was first invented by a Doctor Sylvius, of Leyden in the Netherlands and was intended to be an inexpensive way to get the medicinal benefits of the Juniper berry. Called genever (French for Juniper), the drink was an immediate success, though more as a cheap way to get drunk than as a medicine. Ironically instead of improving health, gin became a health problem, causing alcoholism, poverty and further misery for the poor.

Yeast: The white bloom on the berries is actually yeast and this has been used like commercial yeast for baking. See Oregon Grape (*Mahonia*) for more on using it.

Medicine: A wash, or poultice, of the mashed berries was used to treat skin diseases, wounds, insect bites and fungal infections. It has antiseptic and perhaps antibiotic properties. Juniper liniment was used to treat sore muscles and rheumatism. Steam from the boiling berries, or the smoke of burning twigs, was inhaled to clear the nose. The steam was also thought to disinfect sickrooms.

The tea is a powerful diuretic and was used to eliminate excess water and toxins from the body. It was also used for urinary infections such as urethritis and cystitis. It is said to stimulate acid secretions in the stomach and so help digestion.

Wood: The oil in Juniper wood makes it very resistant to decay. A Juniper fencepost may last fifty years or more in the ground. Most species are too small to be of any commercial value as lumber however. The wood is excellent firewood.

Insect repellant: The oil in the wood repels moths and other insects. Shavings were sewn into sachets and kept with clothing to repel moths.

Incense: Native Americans used the smoldering boughs to purify the air. They were also used in sweat lodges for this. The ground berries were added to smoking mixtures.

Horticultural uses: Junipers are very commonly used in low maintenance landscaping, around offices and other public buildings. They are popular because they are very tolerant of neglect and are available in a variety of sizes and shapes, for windbreaks, hedges and groundcovers.

Cultivation: Junipers like well-drained, rich soil, with lots of sun. They can be grown from semiripe cuttings, layering or seed.

Lactuca species

Wild Lettuce

Native annuals, biennials, perennials A*steraceae*

A number of *Lactuca* species are commonly found in Britain, including the wild ancestor of garden Lettuce (*L. sativa*). Most of these are very bitter and only really palatable when young. Garden Lettuces have been carefully bred over the years to reduce this bitterness and even they get bitter in hot weather, or when flowering.

Greens: These species are only useful in spring, when their leaves are just a few inches high. They can be used like the related Dandelion (see *Taraxacum*). The leaves get increasingly bitter with age and by the time the flower stalk appears they are inedible.

Stem: If it's not too bitter, the flower stalk can be peeled and eaten raw or cooked.

Medicine: Herbalists call the milky juice that exudes from wounds in the plant lactucarium. It somewhat resembles opium in appearance and in the popular imagination it became imbued with the same properties as that powerful drug. It isn't really like opium at all, though it may contain some alkaloids and be a very mild sedative. The juice was once collected in the same way as opium, by wounding the plants and scraping off the coagulated latex. It is still cultivated in some places to produce this latex for medicinal use.

Compass: When growing in full sun, the leaves of these plants tend to align themselves on a north south axis, hence the name Compass Plant.

The leaves have been made into tea, or smoked, for their mild sedative effect. The gum has been smoked like opium, by heating it and inhaling the smoke through a pipe. It has also been dissolved in alcohol and drunk. The latter method definitely has a sedative effect, though the alcohol no doubt has a lot to do with it.

Cultivation: Wild Lettuces are grown from seed in the same way as cultivated Lettuce, though they are usually so common in the wild that few people bother. Seed can be collected from the wild and used to grow a cut and come again salad crop.

Edible species include:

L. perennis - Blue Lettuce

L. serriola - Prickly Lettuce

L. virosa - Prickly Lettuce

Laminaria digitata

Sea Tangle

Native seaweed *Phaeophyta*

This common seaweed is one of the most advanced of the algae and one of the best edible ones. It is common in seas all around the British Isles.

Food: Prepare this tasty seaweed by slicing the fronds into thin strips across the grain and drying them. The dried fronds are soaked in water before use. They can be used for making jelly in the same way as Iceland Moss (*Chondrus*). In Japan the leaf blades of related species are used to make *kombu*. They are also fried in tempura, added to soup, cooked as a vegetable, dried and ground to powder.

Medicine: This plant is diuretic and has been used in detoxification programs.

Chemicals: The plant is an important source of alginates and iodine. It also contains mannitol, which has been used in making explosives, diet foods, laxatives and "sugar free" chewing gum. Ash from the burned plants was once used commercially as a source of soda ash for making glass and soap.

Animal food: The plant has been used as livestock forage in Europe.

Cultivation: The related *L. japonica* is cultivated on a large scale in China, for food and as a source of alginates and other chemicals. Annual production is around one and a half million tons annually. The intensively cultivated plants are grown on rafts, which keep the plants at an optimum depth at all times and superior cultivars are used. These stands produce up to ten times as much biomass as natural forests of Giant Kelp.

Fertilizer: Like many seaweeds these plants make good garden fertilizer (see Kelp *Alaria*).

Related species:

L. longicruris – Oarweed

Laminaria saccharina

Sweet Wrack

These species are used as above. The latter is particularly rich in the sugars laminarin and mannitol and has been fermented to produce alcohol.

Lamiastrum galeobdolon

Yellow Archangel

Native perennial *Lamiaceae*

This species is closely related to the Purple Dead Nettle (*Lamium*) and can be used in the same ways. It is quite common in southern England.

Lamium purpureum

Purple Dead Nettle

Native perennial *Lamiaceae*

This plant gets its name because the leaves resemble those of Stinging Nettle, but don't have any sting (so are 'dead'). It is common throughout the British Isles. Some *Lamium* species have been implicated with the poisoning of cattle, but large quantities must be eaten to have any negative effect.

Food: This plant has an unusual, but quite pleasant, flavor. In spring the young plants are a nice addition to salads and can be used as a pot herb. Older leaves can be cooked and eaten.

Honey: The *Lamium* species are important bee plants. The White Dead Nettle (*L. album*) is reported to have the highest nectar yield of any plant in Britain.

Cultivation: Several *Lamium* species are popular as ornamentals and may be grown from seed or division in rich moist soils.

Related species include:

Lamium album

White Dead Nettle

Lamium amplexicaule

Henbit

Use as above.

Lapsana communis

Nipplewort

Native annual *Asteraceae*

This species is common on waste ground, roadsides and fields throughout most of Britain. The young leaves of this relative of the Dandelion (*Taraxacum*) can be used in the same ways as a pot herb or salad when young and are quite good. Older plants are usually bitter and unpleasant, but have been used as a pot herb after cooking in a change of water.

Larix decidua

Larch

Introduced tree *Pinaceae*

This species is commonly planted as a timber tree in Britain and may also be found in parks and gardens. It is now naturalised in many areas.

Snack: The new needles of these deciduous conifers are tender and make a pleasant enough nibble. The cambium bark layer has been used for food in times of famine, in the same way as the Scots Pine (*Pinus*).

Drink: The leafy tips can be used to make a pleasant vitamin C rich tea. I have used them to flavor water which had to be boiled for purification.

Medicine: Herbalists call the resin Venice turpentine and use it for wounds, as an expectorant and to treat poisoning. It was collected in commercial quantities by tapping the trees. The powdered bark has been used to treat infected wounds. A tea of the needles has been used to treat scurvy.

Wood: Larch wood is tougher than most softwoods and more durable in contact with the ground and this is an important timber tree. It is sometimes used for building construction, but is most valued for outdoor uses such as fenceposts, railroad ties, boatbuilding, revetments, piles and mining timbers.

Other uses: The bark is an important source of tannin. Native Americans used the supple rootlets for sewing Birch Bark utensils, baskets, cordage, etc.

Cultivation: These attractive, hardy, fast growing trees are widely grown as ornamentals, in shev lterbelts and as lumber trees. Generally they prefer full sun, moist fertile soil. They are grown from seed.

Related species:

L. kaempferi - Japanese Larch

L. x eurolepis - Dunkeld Larch (a hybrid of the European and Japanese species).

These two fast growing species are also commonly planted as timber trees in Britain.

Lathyrus japonicus

Sea Pea

Syn. *L. maritima*

Native perennial *Fabaceae*

As the common name suggests, this species is found along beaches and sand dunes, but it is only common in Britain on the Suffolk coast. It looks quite a lot like the cultivated Garden pea and can be used in the same ways. Though rarely used today, it was once commonly eaten by poorer people.

Caution: Beach Pea is often considered poisonous and it does contain some toxins, but the amount you would ingest from eating the seeds or pods is negligible and cooking removes a lot of the toxin. The toxin, B aminopropionitrile (BAPN) is unusual in that it inhibits the cross linkage of protein and can cause irreversible paralysis. Fortunately this only occurs if the plant is eaten in quantity, as almost the only food, for long periods. Ironically this destructive substance is being studied for its potential to extend life, by reversing the aging process.

Seed: One need have no worry about occasionally eating moderate amounts of the tiny Peas. These are quite palatable if gathered while young, but many people make the mistake of gathering them when they are old and tough. Their main drawback is their small size; a lot are needed to make a substantial serving. One solution to this is to eat the young pods along with the peas. You can even gather the pods before the peas start to swell and use them like Snow Peas.

The immature pods, or peas, can be boiled, stir-fried or steamed. The mature peas can be used like dried peas in soups, or ground to flour.

Cultivation: This species has occasionally been cultivated as a food crop and deserves more attention. It is a perennial Pea that grows well in poor soils and is tolerant of saline soils.

Related species include:

Some other species are edible, but a few are toxic, so be very sure of your identification.

*L*athyrus *latifolius*

Everlasting Pea

Used as above.

Lathyrus sylvestris

Wild Pea

Used as above.

Lathyrus montanus

Bitter Vetch

This species bears edible tubers as well as seed. These can be eaten raw or cooked.

Lathyrus tuberosus

Tuberous Pea

The small tubers have been gathered in winter and eaten like potatoes. They are good enough to have been cultivated occasionally.

Ledum palustre

Bog Rosemary

North *Ericaceae*

This species is circumboreal, which means it can be found all around the cooler areas of the northern hemisphere. In Britain it is only common in parts of Scotland. It's easy to identify by the curled leaf edges and brown hairs.

Caution: All *Ledum* species contain andromedotoxins and have poisoned livestock, so should be used with caution.

Flavoring: The leathery leaves have been used as a culinary flavoring, either dried and ground to powder, or boiled whole and removed before serving (like Bay leaves).

Tea: A tea of the dried leaves is bitter, aromatic and mildly stimulating, though it has never been really popular. This might not be such a bad thing as the plants contain a number of toxins. Steep the dried (not green) leaves for a few minutes, in the usual way. Never steep them for longer than fifteen minutes, or boil them, as this will release toxins. The leaves have been mixed with oriental tea, or other herbs.

Beer: In Germany the leaves were once used to flavor beer and the resulting brew was considered to be more intoxicating than that made with Hops. This is probably due to the andromedotoxins, as beer drinkers often consume large quantities.

Medicine: This species was once recommended for glandular problems, sore throats, mucus membrane inflammation and as a mild laxative. A strong decoction has been used externally to kill the parasites that cause scabies (and other body parasites). A wash or poultice has been used for wounds and burns.

Smoke: In Siberia the fumes of *L. decumbens* were inhaled for their narcotic effect. Native Americans burned them in sweat lodges.

Other uses: The leaves have been stored with clothes to repel moths. In Russia they have been used to tan leather.

Cultivation: These species can be grown from seed (slow), division, layering or semi-ripe cuttings and generally transplant easily. They prefer moist, light, acid woodland soil.

Related species:

Ledum groenlandicum – Labrador Tea

Rare in Britain. It can be used as above.

Lemna minor

Duckweed

This tiny species is found in sheltered, nutrient rich ponds. It is edible.

Related species:

Lemna polyrhiza – Great Duckweed

Also edible.

Leontodon hispidus

Rough Hawkbit

Native perennial *Asteraceae*

This species is a close relative of the Dandelion (*Taraxacum*), (which was once included in this genus) and can be used in the same ways. It is quite common on grassland in England.

Lepidium species

Peppergrass

Native annuals or perennials *Brassicaceae*

Some Lepidium species are quite common locally in England.

Greens: All *Lepidium* species, native and exotic are edible and many are tasty and nutritious (up to 10,000 i.u. of vitamin A per 100 grams. Like most members of the Mustard family they are best in cool weather and usually become bitter and unpalatable in summer.

The tender young plants are good in salads and some species have been cultivated for this. Older parts can be used raw, if finely chopped. They can also be cooked as a potherb, though you may need to change the cooking water to reduce their strong flavor.

Seed sprouts: The seed can be sprouted indoors for quick salad greens. Sprinkle a thin layer of seed on a wet paper towel and leave in a warm dark place for several days to sprout. When most of the seed has germinated bring them out into the light to turn green and grow. They are ready to eat when 2 to 3" tall (in about a week).

The seeds can also be used as a condiment like the Mustards (*Brassica*).

Animal food: The seeds are valuable food for birds and are sometimes planted or encouraged as poultry feed.

Cultivation: *L. sativum* is cultivated as a dry land substitute for Watercress and is known, appropriately enough, as Garden Cress. It is easily grown from seed, in almost any soil, so long as the weather is cool. It bolts quickly in hot weather.

Useful species include:

L. sativum - Peppergrass (an escape from cultivation).

L. campestre - Field Pepperwort

L. densiflorum - Pepperwort

L. virginicum - Poor Mans Peppergrass (naturalised from North America).

Lepidium latifolium

Dittander

Native perennial *Brassicaceae*

Unfortunately Dittander is quite rare in most of Britain (it is most common in East Anglia on wet soils). This is a shame as it could be quite a useful wild food plant.

Food: Dittander is a relative of the Peppergrasses above, but different in that it is a perennial and produces a tasty and pungent rootstock. This somewhat resembles its cousin the Horseradish (*Armoracia*) and can be used in the same ways. The young leaves can be used like those of Peppergrass. Unfortunately the plant is getting rarer in the wild, so really can't be used unless very abundant.

Cultivation: Dittander can be propagated by seed or root cuttings and has occasionally been cultivated as a root crop. As with Horseradish it can become a pest if not carefully controlled.

Lepiota procera

Parasol Mushroom

Syn *Macrolepiota procera* Native

This large and spectacular species is found in woodland edge, gardens and hedgerows and can be quite common.

This useful species is common, distinctive and tasty. The slender stem is often discarded and the cap is fried or baked.

Lepista nuda

Wood Blewit

Syn *Clitocybe nuda* Native fungus

This species likes decomposing organic matter and can be found in woods. It is quite common and is one of the few wild mushrooms that was once sold in markets in Britain.

This is another species that is mildly toxic when raw, but safe once cooked. It is good fried, baked and in soups.

Ligusticum scoticum

Scotch Lovage

Native perennial *Apiaceae*

Scotch Lovage is quite common around the Scottish coasts and around Northern Ireland. It is rarely found elsewhere.

Flavoring: This isn't the same species as cultivated Lovage (*Levisticum officinale*), but it is related to it and can be used for flavoring in the same ways.

Stems: The young spring shoots can be peeled and eaten raw in salads, added to soups, or cooked like Asparagus (they may be quite strongly flavored). They are good until the flowers appear.

Drink: The flowers, leaves and seed can be used for tea, by steeping in boiling water for fifteen minutes.

Cultivation: Propagate from seed or root division in average garden soil. It needs little attention once established.

Linum usitatissimum

Common Flax

Introduced annual *Linaceae*

This is the cultivated species and can be found as an escape almost anywhere in Europe.

Caution: The cells of the Flax plant contain chemicals that combine to form cyanide when the plant is crushed or digested. Cyanide, as you probably know, is a deadly poison. It inactivates cellular respiratory enzymes and causes fatal oxygen starvation. This is why symptoms of poisoning include difficult and rapid breathing, faintness, flushed face, headaches, unsteadiness, coma and death.

Seed: The cooked seed is the only part of the flax plant that can be eaten. Cooking inactivates the enzyme needed to make cyanide and also improves the flavor. Native Americans used the seed of related species in quantity. They parched the seed by toasting it in a fire and then removed the seed coats by threshing and winnowing. The cleaned seed was ground to meal for baking or porridge. Some cultivated varieties of Flax have been bred specifically for food use.

Medicine: The mucilaginous seed has been used as a poultice for burns, skin infections, wounds and insect bites. The poultice should be made and used quickly, otherwise irritating toxins may be produced.

Flaxseed oil is rich in essential fatty acids, including the omega 3 fatty acids, which can help control cholesterol in the body. They can also help the body to eliminate heavy metals and have other health benefits.

Linen: Flax has been an important source of fiber for several thousand years. Turning the plants into linen cloth is quite a labor intensive process. The stems are pulled (not cut) after the plants flower and are soaked in water for several weeks, until the chemicals binding the tough outer layer of stem fibers begin to rot. This was usually done by building a dam of plants across a small stream. This process is called retting and was once notorious for the stench created by the rotting plants. The stems were then dried and pounded to free the individual fibers, which were combed and spun into thread. The threads were used to make linen, string and rope.

Linseed oil: Flax seed oil is known commercially as linseed oil. and has numerous industrial uses. It is a drying oil (especially when heated to make boiled linseed oil), which means it absorbs oxygen and dries to form a protective waterproof coat. It is still used to make paint, wood preservatives, glaziers putty, printing ink and varnish, though oil based synthetics have replaced it in many cases. It is still a good treatment for wooden implements, such as tool handles and bats, as it protects them from drying out and splitting, or rotting.

The original linoleum floor covering was made from a filler of wood flour (dust), bound together with linseed oil and fabric. It is extremely durable and with increasing interest in green building it is enjoying something of a revival. The oil is also used in the manufacture of some types of particleboard.

Cordage: The stems can be used as emergency twine with no preparation at all and will even take a knot.

Thatch: In Flax growing areas, the long lasting stems have been used for thatching roofs.

Paper: Flax is still important in the manufacture of high quality paper, such as writing and cigarette papers.

Animal food: The plants are sometimes the cause of poisoning in livestock, especially in ruminants such as cattle. The seed cake left after oil extraction is a common animal feed.

Cultivation: Flax is easily grown from seed. It likes full sun and rich fertile soil.

Related species:

L. perenne – Blue Flax

This species can be used as above. It is native, but is not very common.

Lithospermum officinale

Gromwell

Native perennial *Boraginaceae*

This species is quite common in south and central England in hedgerows and woods.

Medicine: This species isn't edible so far as I know, but I've included it here because of a very special use. An infusion of the flowering tops, roots or seeds has been used as an oral contraceptive to suppress ovulation. Apparently the active ingredient (lithospermic acid) affects hormone production and appears to have no side effects (they always say that of course). It was said that if it was drunk daily for six months it could induce permanent sterility.

Cultivation: Propagate Gromwell from seed or semi-ripe cuttings.

Lobularia maritima

Sweet Alyssum

Syn *Alyssum maritimum*

Escape *Brassicaceae*

Greens: This species is often grown as an ornamental and is commonly found as an escape, especially near the sea. Not only is it attractive, it is also edible and (like many members of the Mustard family) is a nice spicy addition to salads, or bland pot herbs.

Cultivation: This attractive ornamental is easily grown from seed in most soil types and full sun or part shade. White flowered types have a delicious scent.

Lunaria annua

Honesty

Introduced annual *Brassicaceae*

This species is commonly grown as an ornamental in gardens and is often found as an escape.

Food: The young leaves, seeds and flowers may be used like those of Watercress (*Nasturtium*), in salads, soups and as a potherb. Apparently the roots are also edible.

Ornament: The distinctive flat seedpods are often used in dried flower arrangements.

Cultivation: Honesty is easily grown from seed in well-drained garden soil and prefers light shade.

Lycium barbarum

Duke of Argylls Tea Plant

Syn *Lycium chinense*
Introduced shrub *Solanaceae*

Also known as Wolfberry and more recently as Goji Berry, this Chinese vine is widely naturalised in southern and eastern England (and much of Europe).

Greens: The very young green shoots have been eaten as a potherb (they only need to be cooked very briefly) and as a flavoring. Remember that this is a member of the *Solanaceae*, so use them with caution.

Fruit: The bright red berries are very nutritious, being very high in antioxidants, as well as carotene, amino acids and minerals. They can be eaten fresh or dried like raisins. They are one of the best (maybe the best) sources of anti-oxidants of all fruits and have become a trendy new health food in recent years (the dried berries sell for high prices in natural food stores). In Chinese medicine they are said to give long life.

Medicine: In China this species is an important tonic.

Cultivation: This species is sometimes grown for its fruit. It is self-fertile and drought and salt tolerant. Easily grown from seed, I once grew it from dried berries from the health food shop. It is also easily grown from cuttings (green or hardwood) and layering.

Mahonia aquifolium

Oregon Grape

Introduced shrub *Berberidaceae*

This attractive evergreen is commonly planted as an ornamental for its yellow flowers and dark green Hollylike foliage. It is also planted in shelterbelts and game coverts to provide food for wildlife. It has now escaped from cultivation by means of bird sown seedlings and can be found growing wild in many areas (appropriately enough European Holly has escaped from cultivation and is now naturalised in Oregon!). This species is closely related to Barberry (*Berberis*) and is sometimes included in that genus (or vice versa). The difference is that *Mahonia* species don't have spines and their fruits aren't quite so sour.

Fruit: The fruits can be used for food in much the same ways as the Barberries, but are somewhat better. Their quality varies a lot with individuals and species, so you must taste any you find to locate the best. Some are good raw and can be added to fruit salads, but most are quite sour. These are usually best cooked in pies or preserves. Some people advise moderation in the use of the fruits, because they contain berberine (see below) and say they should be avoided during pregnancy.

Flowers: These can be added to salads for their color.

Drink: A pleasant drink can be made by simmering the berries in water, or by crushing them and extracting the juice in the same way as for Grapes (*Vitis*). These drinks are improved by the addition of sugar, or by mixing them with sweeter juices.

Yeast: The white bloom covering the berries contains wild yeasts and can be used to bake bread. Culture it by soaking the berries in flour, sugar and warm water.

Medicine: The roots contain the alkaloid berberine and have the same medicinal uses as the Barberries. They are used as a tonic for the kidneys, thyroid and liver and as a blood purifier to treat rheumatism and skin diseases. A tea of the root is mildly antiseptic and has been used as a wash for wounds.

Animal food: All species are important for wildlife.

Cultivation: Some species are widely planted for their pretty blossoms, berries and shiny Hollylike leaves. They generally prefer moist, rich soil and are propagated from suckers, seed, layering or cuttings. The creeping *M. repens* has been used as a groundcover.

Useful species include:

M. aquifolium

M. nervosa

M. repens

Malus sylvestris ssp *mitis*

Wild Apple

Syn *M. pumila, M. domestic, Pyrus malus*

Native trees *Rosaceae*

The Apples are very closely related to the Pears and sometimes included in that genus. This is by far the most important fruit of temperate regions and is prized for its ease of cultivation, resistance to damage and deterioration, moderately high food value and fine flavor. There are several thousand named varieties in existence with many differing qualities, though many are now rare and in danger of extinction.

Apples are now thoroughly naturalised in Britain in woodland and hedgerows and is not uncommon.. It is also commonly found as a relic of cultivation.

Nutrients: Apples are a well-balanced food, containing about 14% carbohydrate, 85% water and small amounts of malic acid, pectin, enzymes, fiber, iron, magnesium, phosphorus and vitamins B1, C and E. Like many members of the *Rosaceae,* the seeds contain cyanogenic glycosides and are toxic if eaten in large amounts. There is a story of a man who ate a whole cupful of seeds and died of cyanide poisoning. This is a pretty unusual way to die and in small amounts the seeds are quite harmless, maybe even beneficial.

Gathering: Fruits from wild seedling trees are usually too sour to eat raw, but are good if cooked with sweetener. You can often find much better apples in abandoned orchards or home-sites, still bearing fruit years after being abandoned. These tend to be far superior to the truly wild types.

Apple foraging can be a very rewarding activity, giving a lot of food in a very short time. Don’t worry if there are bruises, blemishes or even wormholes in your apples, just use the good parts and discard the rest. If you want to keep them for a while, pick the fruits before they fall to the ground, because bruised Apples don’t store well.

The season for gathering apples is a lot longer than you might think. You can start gathering immature fruit for applesauce in midsummer, while the fallen fruit may still be edible in midwinter, even if frozen. When an apple is ripe the seeds are dark brown.

Storage: Apples will keep fresh for several months if stored correctly. Wrap the unblemished fruits individually in paper and store in a cool room. It is important that they be undamaged, as injured flesh exudes ethylene gas, causing the fruit to ripen and too much ripeness becomes decay. You have probably heard the saying “one rotten apple spoils the whole barrel”, well this is why.

Apples are usually preserved in the form of cooked applesauce or apple butter. They can also be sliced into thin rings and dried in the sun. You can get a tool that will peel and make a single spiral out of a whole apple. The dried fruits are good in breakfast cereals and baked goods and are a great backpacking food.

Uses: From a nutritional standpoint apples are best eaten raw. Some people eat them whole, skin, core seeds and all and this may well be the best way. The skin contains five times as much vitamin C as the flesh, as well as many other nutrients, so don’t peel them without good reason. Apples are also good

stewed, baked, fried, made into pies, cakes, preserves and sauces. Very sour (or unripe) apples can be used for sauce or jelly.

Drink: Apple juice is familiar to everyone. It used to be made by grating the fruits and then crushing the pulp in a cider press, or in a muslin bag by hand. Nowadays it is much easier to use an electric vegetable juicer.

If the juice is left in a warm place it will start to ferment, without the addition of yeast. After a couple of days it will develop a light carbonation and tastes like apple soda. I found this semi-fermented juice to be one of the great pleasures of the New England fall. If fermentation is allowed to continue for a longer period, much of the sugar is converted into alcohol and it becomes hard cider. This has an alcohol content that exceeds that of beer. Commercial cider is made by blending sweet and sour apples together in the right proportions. The wild yeasts are killed off (they can give it an off flavor) and special cultivated yeast strains are added.

In very cold climates hard cider can be made even stronger, by leaving it outdoors on freezing winter nights. A lot of the water in the cider will freeze (and can be removed), leaving the alcohol still liquid (alcohol freezes at about -114°C).

Vinegar: If you leave the fermented juice long enough it eventually turns into apple cider vinegar. This can be used in salad dressings, as a condiment and for medicinal purposes.

Verjuice: The juice of sour apples is called verjuice and can be used as a substitute for vinegar, or lemon juice, in salad dressings.

Tea: It has been said that apple juice can kill some forms of bacteria. I wouldn't rely on this as a means of water purification, but I have added chopped apples, or just the peel, to my canteen to flavor the water. Apple peelings can also be used to make tea.

Medicine: Another apple saying is "an apple a day keeps the doctor away" (remember "Garlic for vampires, Apples for doctors"). This sounds ridiculous at face value, but contains an element of truth. It is a reference to the laxative properties of whole apples, as they provide fiber and pectin to aid in elimination. They also contain easily digested minerals, enzymes and acids and are said to stimulate the digestion, liver and kidneys. Because of these properties apples are sometimes the basis for a "fruit fast", where one eats only apples for a number of days.

Paradoxically apples have been used both as a laxative and to treat diarrhea (their pectin and tannin content helps in this). Pectin has also been found to be useful in reducing the amount of heavy metals (notably strontium 90) absorbed by the body. Apparently pectin binds these elements so they are excreted rather than being absorbed into the bones. Prepared pectin is normally used as one would have to eat about fifteen apples daily to get the effect.

Apple cider vinegar has been used to treat athletes foot, skin itching and as a douche for some types of vaginal infections.

Wood: Apple wood has a beautiful grain, but is too scarce to be of much commercial importance, as most trees are small and contorted. It is also very hard and quickly dulls woodworking tools. The wood is used in cabinetmaking, carving, turning and for tool handles, mallets and golf clubs.

Fuel: Apple is very good firewood, giving about 24 million Btu per cord and a fine scent. It isn't often available though, unless an orchard is being destroyed.

Pectin: Pectin, derived from apple pomace (the residue left after juice making), is an important industrial chemical. Its binding properties make it of value for food processing, hairdressing, toothpaste, glues, medicines and even in steel manufacture (for tempering steel). Sour apples contain more pectin than sweet ones.

Cosmetics: Apple cider vinegar can be used as a hair wash. A face pack of mashed apples is said to improve the complexion.

Animal food: Apple trees are an important source of food for wildlife, the fruits are eaten by mammals, birds and insects. The flowers are a rich source of nectar for insects.

Cultivation: Apple seed should be soaked for 24 hours and then stratified at 0°C for three months. They are sometimes treated with the hormone giberellic acid to speed germination. Alternatively you might simply sow the seed in autumn, in a rodent free place and keep your fingers crossed for a year or two. They like deep, rich, well-drained, moist soil and full sun. Apples don't come true from seed and with a few exceptions most seedlings are inferior to their parents (you could try cross pollinating your preferred varieties). Select cultivars are propagated by grafting or budding.

Fertilizer: Apple pomace is an excellent garden fertilizer, though not widely available. It is usually mixed with leaves or hay to aerate it and used as green manure, compost material or mulch.

Related species:

Malus sylvestris ssp *sylvestris*

Wild Crab Apple

This is the native British Apple and is usually pretty sour. It can be good if sweetened with lots of sugar though.

M. baccata – Ornamental Crab Apple

This species is commonly planted in parks and gardens for its pretty flowers and small red fruit. These are sour, but can be used for apple sauce and apple jelly.

Malva species

Mallows

Native or introduced perennials *Malvaceae*

Various *Malva* species can be found throughout England and Wales.

Strictly speaking no wild member of the *Malva* genus is poisonous and any species you find can be tried as food. However at least one species has poisoned cattle in Australia, probably as a result of concentrating nitrates from the soil. This proves the exception to the rule and shows that you should always be cautious about what you put into your mouth.

Nutrients: The Mallows are among the richest plant sources of carotene (which the body converts into vitamin A), containing as much as 16,000 i.u. per ounce. They also contain a lot of vitamin C and many minerals.

Greens: In mild climates these hardy plants may remain green all winter, which makes them especially valuable in such areas. The tender young leaves can be used in salads, but are best boiled as greens. Older leaves can be chopped and cooked as a potherb, though you might want to change the cooking water once or twice. This is not necessary to remove any unpleasant taste, but reduces their slimy, mucilaginous quality. The dried leaves have been used for tea.

Flowers: The flowers can be added to salads.

Seedpods: The green seedpods have been peeled and used like their relative the Okra, to thicken soups and as a cooked vegetable. Their unusual shape and texture makes them an interesting addition to salads.

Medicine: The name Mallow is derived from the Greek “to soften” and is a reference to their soothing properties. The whole plants can be used as an emollient in the same ways as Marshmallow (*Althaea*), though they aren’t quite as effective.

A wash of the leaves (or a leaf poultice) can be used for wounds and bee stings. The slimy liquid obtained by boiling the pods or roots has been used as a lotion for skin problems like eczema, or dry sore skin.

It has recently been found that foods that are rich in carotene can help prevent some kinds of cancer. That would make these plants a valuable addition to the diet. The leaves have been eaten to cure constipation.

Cultivation: Several Mallow species are grown as ornamentals for their lovely flowers (*M. moschata, M. alcea*), while others (*M. neglecta* and *M. rotundifolia*) are common weeds of gardens and fields.

Generally these species prefer moist soil and full sun. The annual and biennial types are grown from seed, while the perennials can be grown from seed, division or soft cuttings.

Useful species include:

M. moschata - Musk Mallow

M. neglecta - Common Mallow (Syn *M. parviflora*)

M. rotundifolia - Low Mallow

M. sylvestris - High Mallow

M. verticillata - Curly Mallow (Syn *M. crispa*)

Marrubium vulgare

Horehound

Native perennial *Lamiaceae*

This species can be found throughout England and Wales, but is not particularly common.

Food: The leaves of these aromatic and somewhat bitter herbs have been used as flavoring, though they are not to everyones taste. A better use is to make Horehound candy, which is good enough to eat for pleasure though it was actually intended as a cough remedy.

Medicine: Horehound leaf tea, sweetened with honey, was used as an expectorant for coughs, catarrh etc (as was the candy).

Other uses: In the middle ages gypsies were said to make themselves black by rubbing the juice on their skin. I'm not sure exactly why they would do this as it was hazardous enough being a white gypsy at the time (it was a capital offence in some countries!).

Cultivation: Horehound grows well in almost any well-drained sunny soil and can be propagated from seed, cutting or division.

Matricaria chamomila

German Chamomile

Syn M. recutita
Native annual *Asteraceae*

This species is only really common in the south, though it is widely cultivated elsewhere and can be found as an escape.

Food: The flowers have been used sparingly in salads, stir fries, etc.

Drink: The fresh or dried flowers are used to make a pleasant tasting herbal tea.

Medicine: Chamomile tea has a mild sedative effect (it was sometimes sewn into dream pillows for this). Like some other members of the *Asteraceae* this plant occasionally causes dermatitis in rare individuals.

Cultivation: The plant is easily grown from seed in average soil and is decorative enough to have been used as an ornamental.

Related species:

M. matricaroides - Pineapple Weed

The strongly aromatic flowers can be used to make a pleasant tea, or as a culinary herb.

Medicago sativa

Lucerne

Naturalised perennial *Fabaceae*

Lucerne (or Alfalfa) is one of the most commercially important non-food legumes. It isn't native to Britain, but is naturalised in the southwest and can be found as an escape elsewhere. It is widely planted as animal feed and to improve soil fertility. Its deep penetrating roots make it one of the richest sources of minerals of all plants.

Alfalfa sprouts: A few years ago lucerne was something you fed to rabbits or cows, not humans, but alfalfa seed sprouts are now an everyday food and can be found in almost all supermarkets. They are easy to produce; all you need is seed, water and a warm place. Soak the seeds overnight to hydrate them and then keep them moist (but not wet), by rinsing them 1 to 3 times daily. When the sprouts are about an inch long, expose them to sunlight so they turn green, as this makes them more nutritious. They are usually ready to eat in 7 to 10 days.

Greens: In China the tender young foliage has been used as a salad or potherb (best mixed with other greens). Be cautious, as they can concentrate nitrates from chemical fertilizers in the soil and become toxic. They may also contain other toxins.

The dried leaves have been ground to powder and made into "natural vitamin pills". The protein has also been extracted to make leaf protein concentrate.

Seed: Native Americans ground the seed of related species to meal for baking and porridge.

Medicine: The fresh or dried (better) leaves can be made into a nutritious, mineral rich tea. It doesn't have much flavor, so is usually mixed with Mint or other strongly flavored herbs.

Animal food: Lucerne has the highest protein content of all common livestock forage plants and is used as animal feed in a variety of forms. Many wild birds eat the seeds.

Cultivation: Lucerne is easily grown from seed and prefers deep, well-drained, fairly neutral soils. Varieties are available for widely different growing conditions. If it is to be cut frequently the soil should be fairly rich. It fixes more nitrogen if inoculated with suitable bacteria.

Horticultural uses: This drought tolerant hardy perennial contain nitrogen fixing bacteria in nodules on its roots and has been known to fix over 200 pounds of nitrogen per acre annually. It is sometimes planted as a cover crop, or green manure, to improve impoverished soils. The plant is often allowed to grow for several years to improve the soil. During which time the land will produce hay, seed (potentially valuable) and nectar (it pays to have beehives nearby).

Fertilizer: The fresh or dried leaves can be used as garden fertilizer and compost activator. They are useful not only for their high content of nitrogen and other nutrients, but also because they contain a

growth stimulant called triacontanol. Lucerne hay has been composted, shredded and dried for use as a peat substitute for starting seeds.

Related species.

M. lupulina - Black Medick

M. hispida – Toothed Medick (syn *M. denticulata*)

Used as above.

Melilotus species

Melilot

Throughout *Fabaceae*

Also known as sweet clover these nitrogen-fixing legumes (*Melilotus officinalis and M. alba)* / are commonly naturalised in the southeast on waste ground and roadsides.

Caution: The protein rich leaves have commonly been used for hay, but they can become toxic if improperly cured. Shortly after the plant was introduced into North Dakota in the 1920's, cattle were found to be bleeding to death from the slightest injury, their blood having lost the ability to clot. Spoiled sweet clover hay was found to be the cause, as the spoilage converts a relatively harmless substance in the plant called coumarin into a harmful one called dicoumarol. This substance reduces the ability of the blood to clot, to the point where any injury can cause fatal hemorrhaging.

Coumarin gives the dried plants their characteristic new mown hay scent and dried melilot has long been used as a culinary flavoring. It was banned from use in the food processing industry in 1954 because it is toxic to the liver.

Flavoring: The dried leaves of these two species have a new mown hay scent and flavor and have been used for flavoring cheese, soup and wine.

Greens: The tender new leaves have occasionally been used in salads. They leaves have also been used for tea, but may be emetic if drunk in quantity. If you dry the plants for anything make sure it is done quickly, as it could (conceivably) spoil and become toxic.

Seed: The seeds have been sprouted like Lucerne (*Medicago*).

Medicine: The leaves are useful as a wash or poultice for wounds and may contain an antibiotic. A tea has been used externally for sore muscles and as an eyewash. The tea has been used internally as a carminative and digestive. The anticoagulant properties of dicoumarol have found a place in traditional medicine, to treat thrombosis and phlebitis, though it is too dangerous to use without expert supervision.

Animal food: These plants are very important to bees and other insects as a source of nectar. They are also valuable forage for cattle and deer.

Rat poison: Dicoumarol and related anticoagulant chemicals, have been used as rodenticides. They are particularly effective because they kill indirectly, by causing hemorrhaging and so don't arouse the suspicion of these intelligent creatures, as a poison might.

Fertilizer: Melilot has been called the aristocrat of weeds, as the six-foot tall plants are unsurpassed at accumulating nutrients and restoring fertility to damaged land. Their penetrating roots reach deep into the soil, to loosen it and bring minerals to the surface. They are said to produce greater amounts of organic matter than any other common green manure plants. Their root nodules contain nitrogen-fixing bacteria

The plants should be incorporated into the soil at the end of their first year, or in the second year as they reach full size, but before they flower and turn woody.

Perfume: The dried plants have been widely used in potpourri and sachets. These were sometimes kept with clothes in the belief that their scent would repel moths.

Smoke: The leaves were added to herbal smoking mixes.

Cultivation: These biennials are grown from seed and do well in most soil types. I've seen it thriving in the cracks in the sidewalk in the middle of Seattle.

Related species:

M. altissima – Common Melilot

Used as above.

Melissa officinalis

Lemon Balm

Naturalised perennial *Lamiaceae*

This creeping perennial is locally naturalised across the country, especially in the south. It is fairly easy to identify by its pronounced lemon odor and flavor.

Flavoring: The leaves are best gathered just before the flowers open, by nipping off the growing tips. If you don't take too much it will resprout quickly and grow even bushier. Add the tender leaves to salads, fruit dishes and cooked foods.

Drink: The fresh or dried leaves can be used to make a pleasant lemon flavored tea. Use alone or with other herbs.

Medicine: The tea was drunk to alleviate fevers, flu and especially for menstrual cramps. It is a diaphoretic carminative, antispasmodic, calmative, stomachic and mild sedative (it is a good bedtime drink).

The leaves have been used externally to treat insect bites and their scent may actually prevent some insects from biting. It has been added to bath water to aid relaxation.

Insect repellant: Lemon balm has been used to repel mosquitoes and other biting insects. Unlike some insect repellants this one doesn't repel humans as well.

Other uses: The dried leaves are used in potpourri and sachets and are sometimes stored with clothing to repel moths. The oil is used in perfumes. The leaves have been chewed to freshen the breath. It was once used as a strewing herb, thrown on earthen floors to disguise bad smells. Bees love the nectar-rich flowers of lemon balm.

Cultivation: Lemon balm prefers full sun, but will also grow in part shade. It is easily grown from seed or root division and does well in most garden soils. Like its cousins, the mints, it spreads by means of creeping roots and can become a pest unless confined. It also self-sows readily. When I moved house it came with me without any help, hitching a ride in the pots of other plants.

Mentha species

Mints

Throughout *Lamiaceae*

Mint is undoubtedly the most well known of all herbal flavorings, even if some people don't know the flavor is from a green plant rather than a chemical one. There are Mint species growing across all of Britain.

The leaves are surprisingly nutritious, containing vitamins A, C, D, E and K.

Gathering: There are quite a few species both native and introduced. All of them are edible, though their palatability varies enormously, according to climate, moisture, the time of year and genetic factors. Some wild types are delicious; others have so little flavor they are not worth gathering. All are easily identified by their scent and none are poisonous, so you can sample any you find. The leaves are best gathered before the flowers appear. Ideally you should harvest in early morning, as the essential oil content is highest at this time. Dry the leaves quickly, in a warm dry place.

Flavoring: I prefer peppermint for tea and spearmint for culinary purposes. The tender young leaves are good for flavoring salads, mint sauce and jelly. They have occasionally been used as a potherb. My son wraps a couple of mint leaves around a sweet Stevia leaf to make a completely natural mint candy.

Tea: Mint tea is probably the most popular herbal tea of all. Use the fresh or dried leaves and steep in boiling water for a few minutes, to the strength you desire. Never boil the leaves, as this may ruin the flavor. Mint tea can be drunk as a warming bedtime drink, or with ice as a cooling summer one. It also makes particularly good sun tea. I sometimes add the leaves to my canteen while hiking to improve the flavor of the water. I also use it as flavoring if I have to boil water to purify it.

Medicine: The oil in mint leaves is antiseptic, so they are useful for treating wounds and as a carminative. The tea is used to allay nausea and promote sleep.

Oil: Mints are cultivated on a large scale for their oil, which is distilled to satisfy the demands of the food processing industry.

Perfume: The plants were once popular as strewing herbs and in potpourri. It was a custom in some places to rub dining tables with mint before eating, to clean and deodorize them. This isn't a bad idea, as the oil is antiseptic as well as sweet smelling.

Smoke: The leaves have been smoked, alone or with other herbs. Mint oil is added to tobacco to make menthol cigarettes

Tooth cleaner: Rub mint leaves on your teeth to freshen them, or chew a few leaves as a quick breath freshener.

Cosmetics: The leaves have been used in skin lotions and as a face pack to cleanse the skin.

Cultivation: These vigorous plants are easily propagated by root cuttings, division or soft cuttings. If you are buying, or transplanting, any mint always smell and taste it first to make sure you are getting a good variety. This varies greatly with individuals and you don't want to have your garden overrun by some inferior type. Mint can also be grown from seed, but seedling quality is quite variable. They grow in any moist soil and like part shade.

Be careful where you plant mint, as it may well become a pest if the creeping roots aren't confined. To prevent this you can plant them in a container sunk into the ground to confine them. You might also grow it in a semi-wild state, well away from the intensively cultivated garden. Mints are generally beneficial in the garden, because they attract pollinating and predatory insects.

Useful species include:

Mentha species hybridize quite readily, so you will often find crosses between them.

M. aquatica - Water Mint

This native species is our commonest mint and can be found throughout most of Britain. It is one of the best tasting and most useful mints. Secretions from the roots kill pathogenic bacteria, so the plants have been used for purifying greywater.

M. spicata - Spearmint

M. piperita - Peppermint (probably a cross between Spearmint and Watermint)

These two species are commonly cultivated in Britain and often escape. The easiest way to tell the difference between Peppermint and Spearmint is the smell. Also the former have stalked leaves, while the latter leaves are sessile (stalkless).

M. rotundifolia - Apple Mint

M. verticillata - Whorled Mint

Used as above.

Mentha pulegium

Pennyroyal

This pungently flavored plant is native, but quite rare in the wild and most plants you are likely to find will be escapes. It is quite a vigorous plant and commonly persists once established. The leaves can be used for tea in moderation, but are toxic if consumed in quantity. They have been used medicinally as an abortifacient, diuretic, diaphoretic and for menstrual cramps. Their odor is said to repel insects.

Drink: This herb has a distinctive and pungent mint flavor. The leaves can be used for tea in moderation, but are toxic if consumed in quantity. It was once added to ships drinking water to help keep it from stagnating (it contains an antispetic oil which may help to do this). It has occasionally been used as a culinary flavoring also.

Medicine: Pennyroyal leaves have potent medicinal qualities. They have been used medicinally as an abortifacient, carminative, diuretic, diaphoretic and for menstrual cramps. It was also used in tea or as a steam bath to treat colds.

Other uses: The strong odor is said to repel most insects, so pennyroyal is commonly used in herbal insect repellants. The specific name pulegium is derived from pulex which means flea,because they were used to repel that insect. I have used the leaves to scent the water in sweat lodges.

Cultivation: Pennyroyal is easily grown from seed or division in moist, fairly rich soil. It spreads vigorously once established and could be used as a groundcover or in herbal lawns.

Menyanthes trifoliata

Bog Bean

Native perennial *Menyanthaceae*

Bog bean grow in acid, wet bogs and shallow water, in +cool northern areas, especially Scotland. This bitter plant was once used to flavor beer before the introduction of hops. The root has reportedly been eaten, after cooking in several changes of water to leach out their tannin. Apparently in Scandinavia the cooked root was once dried and ground to flour for baking. The dried leaves were commonly smoked, alone or in aromatic herbal smoking mixtures. All of these uses are unimportant nowadays as it is not very common.

Medicine: The root was once used to make a bitter tonic.

Smoking: The dried leaves were commonly smoked, alone or more commonly in herbal mixtures.

Cultivation: Bogbean is often grown as an ornamental in shallow water gardens. Propagate by division.

Mertensia maritima

Oyster Plant

Native perennial *Boraginaceae*

As the specific name suggests, this species is found near the sea, on shingle beaches. It can be found on western beaches from Wales up to Scotland. Unfortunately it is never common enough to use for food.

Food: This coastal plant gets its name because the roots are said to taste like oysters (don't confuse it with that other Oyster Plant (*Tragopogon porrifolius*). Though you are not likely to get them confused with oysters, they aren't bad when prepared like carrots. The fleshy leaves have also been eaten.

Cultivation: This species could profitably be cultivated as a root crop. Grow from seed or division in well-drained sunny soil. Related species are grown as ornamentals.

Mesembryanthemum edule

Hottentot Fig

(Syn *Carpobrutus edule*)
Introduced perennial *Aizoaceae*

This African plant is naturalised in the mild coastal areas of Devon and Cornwall. It gets its name because it was once commonly eaten by members of the Hottentot tribe in southern Africa.

Greens: The succulent leaves have been eaten raw, boiled, pickled and even fermented like sauerkraut, but don't taste very good.

Fruit: The fruits are better than the leaves and have been eaten raw or cooked. They have also been used to make an alcoholic drink.

Chemicals: This plant was once dried and burned as a source of soda ash as for Glasswort (*Salicornia*).

Cultivation: This pretty flowered species is commonly cultivated as an ornamental. It is a perennial, but is often grown as an annual in areas with cold winters. It can be propagated from cuttings, division, leaf cuttings or seed and will grow in most soil types (even saline ones), with either full sun or part shade.

Mespilus germanica

Medlar

Naturalised tree *Rosaceae*

This relative of the Hawthorn is native to southeastern Europe, but was once quite widely cultivated. It is not very common in the wild, but can be found locally in hedgerows in the south.

Food: British summers are normally too cool for the fruit of the Medlar to ripen properly on the tree, but they can be ripened off the tree. They are gathered while they are still hard, after the first frosts in October or November and stored until they turn brown and soft. This treatment actually turns their starch into sugar and makes them quite sweet.

The ripe fruit can be very good with a date/apple-like flavor. They can be eaten fresh, though you will have to spit out the seed. They are also used for preserves and desserts, or can be dried as fruit leather.

Cultivation: Medlar was once quite widely cultivated for its fruit (it is self-fertile). Nowadays it is more often grown as an ornamental curiosity. It prefers a warm situation, with well-drained soil and is propagated from stratified seed. It doesn't root well from cuttings, but layering works well (though it may take two years) A number of improved cultivars are available and these are propagated by grafting onto hawthorn or Quince rootstocks.

Meum athamanticum

Spignel Meu

Native perennial *Apiaceae*

This species is only found in mountainous areas of Scotland and Wales and is never very abundant. It is unfortunate that this plant is too rare to use for food because it can be quite good. The aromatic root has been cooked like Carrot, while the tops have been used for flavoring.

Mimulus guttatus

Monkeyflower

Naturalised perennial *Scrophulariaceae*

Food: This naturalised species is now quite common along streams throughout Britain. The leaves have been used as both salad and potherb, but they are rather pungent or bitter unless very young. The ash of the burned leaves has been used as a salt substitute. See Coltsfoot (*Petasites*) for how to do this.

Native Americans used the leaves as a poultice for burns.

Cultivation: Monkeyflower is commonly grown as an ornamental. Propagate from seed, soft cuttings or division.

Montia perfoliata

Miners Lettuce

Naturalised annual *Portulacaceae*

This small North American plant was introduced to Britain as a salad herb and is now quite widely naturalised in England. It got its common name because it was commonly eaten by gold miners during the 1849 California gold rush.

Leafy greens: The mildly flavored leaves are a great base for a wild spring salad. They can also be used as a potherb, by steaming or boiling for 2 to 5 minutes.

Cultivation: Miners Lettuce prefers cool moist weather and dies off in hot summers (it is a winter/spring annual in most of California). In mild winter areas it may grow right through the winter. It is easily grown from seed, in rich garden soil and thrives in full sun or part shade. It is usually only necessary to plant it once, as it is a very prolific seed producer. It self-sows freely, whether you want it to or not and perpetuates itself. If you can get enough seed it can be grown as a cut and come again salad crop.

Related species:

M. sibirica - Siberian Miners Lettuce

Used as above.

Morchella esculenta

Morel

Native Fungus

The Morel is unusual in that it appears in spring, in woods, gardens and hedgerows. They grow fairly slowly and may be available and edible for several weeks, but unfortunately they aren't very common.

Morels are mildly toxic when raw, but are perfectly edible when cooked like other mushrooms. The honeycomb like top should be carefully cleaned to remove debris and insects before cooking.

Morus nigra

Mulberry

Naturalised tree *Moraceae*

Though not native the Mulberry is quite commonly planted in the south and can often be found as an escape. It fruits in August and September, the fruits somewhat resembling small blackberries in appearance, though they differ in being multiple fruits, formed from a number of flowers.

Nutrients: In parts of Asia it was said that no one goes hungry during mulberry ripening time. The food value of the dried fruit is similar to that of Figs; with about 70% fruit sugar, 3% protein and many vitamins and minerals.

Gathering: The mess made by the fruits is an advantage for the forager, as it makes them easier to find. One can hardly miss the purple stained mess of squashed fruits underneath the trees. The fruiting period lasts for several weeks, though in some places birds will strip off the fruit as it ripens, so you would hardly know it was there.

The flavor of individual trees varies considerably, so taste any ripe fruit you find and use the best. Some people collect the berries by spreading sheets under the trees and then shaking the trunks to bring down the loose ripe fruit. In this way it is possible to gather large quantities of fruit with minimal effort. They must be dried if you don't want to use them immediately, as they deteriorate quickly.

Uses: Fresh mulberries can be used like blackberries, eaten raw out of hand, in salads, frozen, dried, or cooked in preserves, pies and pancakes. In parts of the Middle East and Afghanistan dried mulberries are a staple food. These are a great backpacking food, with good flavor, light weight and high nutritional content.

Greens: Apparently young spring growth has been eaten as a potherb, though it is sometimes said that one shouldn't eat the leaves, or green fruits and that they can cause hallucinations.

Medicine: Mulberries are not important medicinally, though their high fiber content makes them useful as a mild laxative.

Fiber: Native Americans used the inner bark for rope and cordage.

Wood: The wood of these small trees isn't of much commercial value, though Red Mulberry (*M. rubra*) is occasionally used by cabinetmakers. It is quite resistant to decay, so is most often used for fence-posts. It is also good firewood.

Animal food: The leaves of the White Mulberry (*M. alba*) are the chief food of Silkworms and that species was originally introduced into this country in an attempt to start a domestic silk industry. This failed because the silk producing process is very labor intensive and labor costs were too high.

Mulberries are very attractive to birds and many wild animals. They have also been promoted as feed for pigs, but make more sense as feed for humans.

Cultivation: These trees are easy to grow (they are often considered weeds) and can be very productive in terms of yield for effort expended. They are also quite long lived and may last 100 years or more.

Generally Mulberries prefer rich, deep, moist soil, though they will grow in much worse. Insect pests do not seriously bother them, though they are often bothered by feathered pests, as the fruits are a favorite food of many birds. They have even been planted as decoys to keep birds from cultivated fruit trees. However the trees often bear so abundantly that there is plenty for all and the birds often stay around to eat garden pests.

Propagation: Mulberries can be propagated vegetatively by means of hardwood cuttings. This is supposed to be very easy, but I haven't found it so. They are also grown from ripe seed, sown immediately, or stratified for 3 to 4 months at 4°C. It is also possible to transplant self-sown seedlings. The disadvantage of growing from seed is that they are dioecious and you won't know whether you have a male or female until they flower in several years time. Another problem is that fruit quality will be variable. With vegetative propagation you know both the sex and the quality of the fruit. Special varieties can also be propagated by budding.

New crop: Though an old crop in Asia, they are new in the west. The most likely commercial use for Mulberries is as dried fruit, preserves or juice. The fresh fruit is too perishable to transport any distance.

Related species:

M. alba - White Mulberry

This species is sometimes cultivated for fruit in Britain, though it isn't found wild.

Mycelis muralis

Wall Lettuce

Native perennial *Asteraceae*

This species is common on chalky soils throughout England and Wales. The young leaves can be used as a pot herb or salad, though like many members of the Asteraceae they get bitter as they mature.

Myrica gale

Sweet Gale

Native shrub *Myricaceae*

This species is found on damp bogs and heaths. It is most common in northern England, Scotland and Ireland.

Flavoring: The aromatic, leathery leaves can be used as a culinary herb like Bay leaves, added during cooking, but removed before serving. The dried and powdered leaves, or leaf buds, have been used as a condiment. The berries can be used as flavoring, after their waxy coating is removed.

Drink: A tea can be made by steeping the evergreen leaves in boiling water for a few minutes. Don't boil as this may release toxins.

Beer: The leaves have been used in brewing beer and to flavor mead and various liqueurs. With the current popularity of microbreweries and high quality beers, it might be an opportune time to reintroduce unusual herb beers such as this. I think there is a market for them.

Medicine: A strong tea of the leaves was used as an astringent to treat diarrhea (as a drink or enema), sore throats and wounds. It was also used as a wash to kill skin parasites. A very strong decoction has been used as an emetic to treat poisoning.

Insect repellant: Insects seem to dislike the odor of the plant, so the dried leaves have been sewed into sachets, to repel moths from clothing. They also impart a pleasant scent.

Perfume: The leaves and berries have been used in potpourri and their distilled oil in perfumes.

Wax: Bayberry is also known as Wax Myrtle or Candleberry, as the waxy coating on the berries was once used like beeswax to make aromatic candles and soap. A quarter of the weight of the fruits is wax, which can be removed by boiling them in water and skimming off the floating wax. These candles were highly prized, as they give of a delicious Bayberry scent as they burn. The berries may be found on the bushes all year round.

Cultivation: These species can be propagated from cleaned ripe seed. Sow immediately in moist acid soil, or stratify at 2 degrees C for three months. Layering, division, semi-ripe cuttings or suckers can also be used. Some species are popular drought resistant ornamentals. They are dioecious, so male and female plants are needed to produce fruit.

Bayberry is able to grow on very poor soils, because it fixes nitrogen by means of bacteria in root nodules. In recent years it has been included in forest gardens as a source of nitrogen for the soil.

Myrrhis odorata

Sweet Cicely

Native perennial *Apiaceae*

This species is quite common in northern England and parts of Scotland. The sweet honey like odor of the flowers and the sweet anise like flavor of the leaves are useful clues to identification. This is valuable because this is a member of the and so related to some very poisonous species.

Food: The tender young foliage is a delicious addition to salads and has even been used as a pot herb. Most often it is used for flavoring tea (older foliage can also be used for tea).

The unripe seeds are very tasty, having a strong anise flavor and are very good in salads, made into tea (ripe seed also used for tea) etc. They were once eaten after meals to aid digestion.

The flowers are a pleasant, though minor, addition to salads.

The roots have apparently been cooked and eaten also.

Medicine: Sweet Cicely has carminative and stomachic properties. The roots have been used externally as an antiseptic.

Cultivation: This plant is most often propagated by division, though it's fairly easy to grow from fresh seed (it self sows readily). It likes part shade and rich moist soil. It is very pretty in spring when flowering.

Nasturtium officinale

Watercress

Native aquatic perennial *Brassicaceae*

This species is common throughout Britain in wet soils and shallow water. Wild Watercress is exactly the same as cultivated Watercress and is a very valuable wild food plant. It has been called the "king of wild salad plants", but it is equally useful as a potherb.

Nutrients: Watercress has been regarded as a special food for several thousand years and with good reason. As an aquatic plant it is continuously bathed in nutrients as they are washed from the soil and consequently it is very rich in minerals, including iron, iodine (perhaps the richest source of any land plant), copper, manganese and sulfur. It is also a good source of vitamins A, C and E.

Caution: Sadly most streams and lakes are now polluted by bacteria and other contaminants (*E. coli, Giardia*) and the water is not safe to drink. By the same standard Watercress gathered from them shouldn't be eaten raw. It can safely be cooked and eaten though. If there is any possibility of chemical pollution it shouldn't be eaten at all.

In areas frequented by sheep and perhaps other livestock, the plants may also contain liver flukes and their eggs, from the droppings of those animals. These parasites can live quite happily inside humans and are very dangerous. It has been suggested that using chlorine bleach or water purification tablets will kill the parasites, but this is by no means certain. Fortunately cooking kills these organisms, so the cooked plants can safely be eaten.

There is also the possibility of confusing Watercress with the poisonous Water Hemlock (*Cicuta*). This isn't likely if you use reasonable care in your identification, but it has happened.

Watercress contains the irritating mustard oil found in many members of the *Brassicaceae and* can irritate the kidneys if eaten in excess. Use in moderation.

Gathering: Growing under the moderating influence of water, this hardy plant is less affected by hot or cold weather than most and can often be gathered year round. Gather the plants by pinching off the growing tips, leaving the roots and lower leaves to continue growing. It is palatable at all times and stages of growth.

Uses: Raw Watercress is good in salads, sandwiches (a genteel delicacy) and salad dressing, just make sure it is safe. It is also good cooked as a potherb and in sauces, soups and stir-fries.

Medicine: Watercress has been recommended to stimulate the glands and as an expectorant, diuretic and wound herb.

Cultivation: Watercress cultivation is rather specialized because of specific habitat requirements, but it grows easily enough if given the right conditions. It does best in springs, ditches and shallow streams, but it will grow in any wet soil. It was once grown in special Watercress beds, created beside streams to take advantage of the slowly flowing water. You can still sometimes find the remains of these beds. The water must not be stagnant, or the plants will rot. It can be grown on dry land, but a lot of care must be taken to keep it moist and it isn't as vigorous under these conditions.

The plant can be grown from seed, but it is faster and easier to get a bunch of fresh Watercress from a market and simply root it in water. It also transplants well, so you might take some from the wild and redomesticate it.

Crop use: Given a suitable site Watercress is a valuable, reliable, hardy and easily maintained perennial crop. Growing it yourself also ensures that it is safe for use raw in salads. The plant can also be a valuable part of a cultivated freshwater ecosystem, providing shelter and food for numerous organisms, which in turn provide food for fish, birds and small mammals.

Nepeta cataria

Catmint

Native perennial *Lamiaceae*

This species occurs naturally on chalky soils in the south and east of England. However it is widely cultivated and so might be found as an escape almost anywhere.

Food: The tender new spring shoots of Catmint can be added to salads.

Tea: Catmint tea has long been a popular beverage in Europe. Use about two tablespoons of dried leaves to a cup of boiling water. Like most members of the *Lamiaceae* it should never be boiled.

Medicine: Doctors recommended Catmint tea as a mild sedative, diaphoretic and carminative until relatively recently. It is still used to treat diarrhea and in enemas for cleansing the colon.

Repellant: It is said that Catmint has a repellant effect on rats and that a row of plants around a building will keep them away. Maybe the plant reminds them of cats and makes them uncomfortable. It is also disliked by many insects and is sometimes used as a repellant.

Cat bait: Catmint gets its name for its intoxicating effect on Cats. This is apparently due to a substance called nepetalactone and has four distinct phases. These are sniffing, licking and chewing, chin and cheek rubbing and finally head over rolling and body rubbing. Curiously the plant affects only about 60% of cats.

Because of its feline attraction, the plant has been used as bait to catch feral cats. The dried leaves are often added to commercial domestic cat toys to make cats pay attention to them.

Smoke: A belief among pot-less pot smokers of the 1960's was that if you smoked the dried leaves of Catmint, you would get high (as high as a cat?) This is not true, but some people like to smoke them for their own virtues.

Cultivation: There is an old saying about growing Catmint "If you set it the cats will get it, if you sow it the cats won't know it." This probably means the disturbance during transplanting will release enough scent to let nearby cats know it is around. If you sow seed on the other hand, they won't know its there until it is well established. In my experience they will pretty soon find out and come from all around to roll and chew the plants. Fortunately it is a pretty rugged plant and takes such abuse quite well.

Catmint will grow in most soil types, but prefers rich, moist soil with full sun. It is very hardy and pretty much looks after itself. Individual plants are not long lived and often die after flowering, so keep dividing it and cut off the flowers before they set seed. It self-sows vigorously.

Garden uses: Catmint is sometimes grown with vegetables to repel ants, spittlebugs and other pests. It is also made into a spray for this purpose.

Related species:

N. x *faassenii* - Garden Catmint

This species is often found as an escape from gardens. It can be used as above.

Nuphar lutea

Yellow Water Lily

Native aquatic perennial *Nymphaceae*

This species is quite common throughout Britain, except for the north of Scotland. These beautiful plants are a useful source of food as well as being beautiful. However under normal circumstances it would be hard to destroy such magical plants for food. There is also another deterrent, in that they are underground and underwater.

Roots: The large rootstocks are edible and may be gathered from midsummer to early spring. The acrid roots must be peeled and cooked to make them edible. The best way to do this is to boil them for 15 minutes, then peel off the skin and cook the starchy core for a further 10 minutes (boil fry, bake or add to soups etc). Their flavor varies with species, some are tasty simply boiled, others are too bitter to be eaten. Supposedly one can eliminate any bitterness by cooking in at least one change of water, but this doesn't

always happen (it is a good idea to eat a small amount of root before digging a lot, as it may be too bitter to eat).

Flour: The nutritious roots are very rich in starch and flour can be extracted in the same manner as for Reedmace (*Typha*), or by drying and grinding the cooked root. The water method is best, as it leaches out any bitter flavor.

Seed: The large ripe seeds are edible. In North America the seeds of related species were a staple food of some Native American tribes. The annual seed harvest was an important social event, as well as a major source of food. Entire tribes would migrate to the marshes, to gather the pods as they ripen in mid to late summer (July to august). They gathered the seed from canoes in large quantities and dried (or fermented) them to free the seed.

The clean seed can be boiled as a vegetable (if it is too bitter then change the cooking water at least once). Native Americans also cooked and ate the immature seeds like beans.

Greens: The young leaves have been used as a pot herb, or eaten raw.

Cultivation: These beautiful plants are widely planted as ornamentals in shallow ponds. They thrive and spread vigorously once established. They may be propagated by root division or seed (nick the seed coat with a file to allow water to penetrate through the hard seed coat.

Nymphaea alba

White Water Lily

Native aquatic perennial *Nymphaceae*

This species is common in ponds and lakes throughout Britain. Like the Yellow Water Lily (*Nuphar*) this species is really too pretty to use for food and should be left alone under most circumstances.

Food: The roots, leaves and seeds of these lovely aquatic perennials are used for food in the same way as the Yellow Water Lily (*Nuphar*).

Medicine: An astringent decoction of the roots have been used as a gargle for sore throats, a wash for wounds and as a vaginal douche for leucorrhea.

Cultivation; Propagate as for *Nuphar*. It is often planted as an ornamental.

Oenanthe pimpinelloides

Meadow Parsley

Native aquatic perennial *Apiaceae*

This species is said to have an edible root, but is a close relative of the Hemlock Water Dropwort (*O. crocata)* which is very poisonous, so don't try it.

Oenothera biennis

Evening Primrose

Syn. *Onagra biennis*
Naturalised biennial *Onagraceae*

This native of North America is cultivated in gardens in Britain and is now naturalised in many areas. This is a very useful wild plant and provide a variety of tasty foods.

Roots: Several perennial and biennial species produce edible roots. These are gathered when dormant from fall to early spring. Locate them by finding the easily identifiable mature plants and then search nearby for the leaf rosettes of young plants. They are easy to recognize once you are familiar with them.

The palatability of the roots varies with species and stage of growth (generally younger plants are best). Some are good enough to eat raw; others must be cooked in a change of water to make them palatable (peeling helps). At least one species is good enough to have been cultivated occasionally.

Greens: The young leaves and crowns can be used like those of Dandelion (*Taraxacum*) and some species are even good raw. Older leaves are bitter, but can be eaten if treated like Dandelions and boiled in a change of water for about twenty minutes.

Seed: The immature seedpods can be added to salads or cooked in soups. If they are bitter, change the cooking water at least once. The abundantly produced seeds are also edible and given the special oil they contain (see below), it may be worth going out to look for them. Use them like Poppy seed in baking and granola.

Medicine: The leaves have been eaten for their beneficial effect on the liver and digestion. They have been used externally as a poultice for skin diseases.

Evening Primrose Oil: Recently oil from the seeds has received attention from scientists (and health food promoters) because it contains gammalinolenic acid. This essential fatty acid is used by the body to produce prostaglandins (the only other source is human milk), which help to control many body functions.

This oil is said to help in treating diabetes, cancer, schizophrenia, arthritis, hypertension, multiple sclerosis, obesity, acne and many other ailments. It may also lower blood cholesterol levels.

Cultivation: This species has occasionally been cultivated as a biennial root vegetable (known as German Rampion). Others have been grown as ornamentals for their pretty flowers and a few are considered weeds. They are ideal low maintenance plants; even the biennial species need little attention once established and self-seed readily. Propagate from seed, division or soft cutting, they will grow in most soil types, though they prefer light sandy ones for maximum root growth. The flowers are pollinated by moths.

Ononis repens

Rest Harrow

Native perennial *Fabaceae*

This species can be found throughout most of Britain.

The woody roots have a slightly sweet, Licorice-like, flavor (they are distantly related to Licorice).

Related species:

O. arvensis - Field rest Harrow

O. spinosa - Spiny Rest Harrow

The tender spring shoots of these species have been cooked like Asparagus and also pickled.

Onopordon acanthium

Scotch Thistle

Native biennial *Asteraceae*

This species is most common in East Anglia and is actually quite rare in Scotland.

Food: This species can be used for food like the Thistles of the (*Cirsium*) genus. The leaves can be used as a pot herb, or even in salads if their spines are cut off. The flower stem, flower buds and seeds have also been eaten.

Medicine: A poultice of Scotch Thistle leaves was once considered a good treatment for skin diseases such as skin cancer.

Stuffing: The downy seed have been used like those of Reedmace (*Typha*) for stuffing clothing and pillows.

Other uses: Oil from the seeds has been used as lamp fuel.

Cultivation: Scotch Thistle makes a handsome specimen plant for the garden, but don't let it set seed or it could become a pest. It can be grown from seed in moist rich soil, with full sun or part shade.

Orchis maculata

Early Purple Orchid

Native perennial *Orchidaceae*

This is one of our commonest orchids. Many Orchids have been eaten in the past and the tuberous roots are often quite good. This species isn't uncommon in southern England, but it is not common enough to use.

Food: The edible tubers were once commonly cooked and eaten. They were also dried and ground to flour to make a drink called salep.

Cultivation: The Orchids are often notoriously difficult to cultivate, as they grow in association with specific types of fungi and don't usually survive when transplanted from the wild (it's also illegal, so don't try it!). This species is fairly easy to propagate by seed or division and naturalises quite readily.

Origanum vulgare

Wild Marjoram

Native perennial *Lamiaceae*

This species is quite common on dry calcareous soils throughout England and Wales. It is commonly cultivated and so may also be found as an escape.

Flavoring: This aromatic plant is often said to be the culinary herb Oregano, but the wild types aren't as aromatic or tasty as the cultivated varieties. The flavor is similar enough to make a fair substitute though. Use it fresh, or dried, to flavor pizza, pasta, sauces and egg and cheese dishes. Young tender tips can be chopped and added to salads.

Drinks: The fresh or dried leaves have been used for tea and to brew beer.

Medicine: The ancient Greeks considered this a powerful healing herb and used it externally for treating wounds, preventing infections (it is antiseptic) and soothing aching muscles. The tea is also carminative and stomachic.

Smoke: The dried leaves have been mixed with other herbs and smoked. They are also used in potpourri.

Cultivation: Wild Marjoram is easily grown from seed, soft cuttings or division. It thrives in poor dry soils and once established needs little care. It can be invasive, so is best grown in a semiwild state.

Ornithogalum pyrenaicum

Bath Asparagus

Naturalised perennial *Liliaceae*

The shoots of this beautiful lily have been eaten like asparagus, but it is too rare to gather from the wild.

Oxalis acetosella

Wood Sorrel

Native perennial *Oxalidaceae*

Little Wood Sorrel is common in woods throughout Britain and Ireland. Wood Sorrel is sometimes said to be the Shamrock, symbol of Ireland. This plant produces two kinds of flowers, conventional showy ones and inconspicuous self-fertilizing (cleistogamous) ones that produce an abundance of seed. The plant may throw this seed several feet to disperse it.

Caution: Wood Sorrel leaves have a strong sour taste, rather like grape skins or Sorrel leaves (*Rumex*), which this is why they share the name Sorrel with those unrelated plants. The same flavor is due to the same chemical - oxalic acid, which is toxic in large amounts, as it inhibits calcium absorption and can damage the kidneys. The plants contain quite a lot of oxalic acid (*O. corniculata* contains up to 7% dry weight of oxalic acid), so shouldn't be eaten excessively.

Greens: The sour leaves are a pleasant minor addition to salads while tender. They have also been baked in pies, or boiled as a potherb. Boiling removes a lot of the oxalic acid, but they should still be used in moderation. They were a favorite of Native Americans, who ate them raw, cooked or fermented to make a kind of sauerkraut.

Seeds: The small seedpods can be added to salads for their sour flavor.

Drink: Add a few Sorrel leaves to herbal tea instead of lemon.

Medicine: The leaves have been used as an antiseptic poultice, or wash, for wounds, burns and insect bites. They have also been eaten to purify the blood (their high vitamin C may explain this use).

Cultivation: Several *Oxalis* species are common and persistent farm or garden weeds. About the only good thing you can say about them is that they help alleviate thirst when weeding. They are easily grown from seed or division, in rich moist soil, not that you would really want to.

Related species:

O. corniculata - Yellow Wood Sorrel

Used as above.

Oxyria digyna

Mountain Sorrel

Native perennial *Polygonaceae*

True to its name, this species is only commonly found in the most mountainous areas of Britain, such as the highlands of Scotland.

Greens: This species has a flavor similar to the other Sorrels (see *Oxalis* and *Rumex),* because it contains the same toxic oxalic acid. This means it should be used in moderation. It also contains a lot of vitamins A and C and was prized by Native Americans in the far north, living where green edible plants are scarce. They mashed and fermented it to make a kind of sauerkraut. Pinch off the growing tips any time they are available and use in salads, or as a potherb.

Drink: The leaves can be steeped in water to make "lemonade".

Medicine: The plant was once known as Scurvy Grass, because of its antiscorbutic properties.

Cultivation: This species is fairly easy to grow from seed and self-sows readily.

Papaver rhoeas

Field Poppy

Native annual *Papaveraceae*

The Field Poppy once grew in almost every corn field in Britain and was so intimately associated with cereal growing that the corn goddess Ceres was said to wear a crown of Poppies. Herbicides have almost completely eradicated this plant from cereal fields, though it is still quite common in waste places, especially in the south.

Food: The seeds of this species can be used like commercial poppy seeds to add flavor to baked goods, soups, curries and more. They are quite easy to gather in quantity, simply collect the seed heads just before they are fully mature and dry them in a paper bag. Then simply shake the seeds out into the bag.

The oil extracted from poppy seeds (they contain about 50% oil) is said to be as good as olive oil for cooking, salads, etc.

In spring the young leaves were sometimes used as a pot herb. The flower petals have been added to herbal teas and wines to give them a red color.

Cultivation: This plant is often cultivated for its seeds or as an ornamental. It's easily grown from seed in well-drained, sunny soils.

Related species:

Papaver somniferum

Opium Poppy

The notorious Opium Poppy is cultivated as an ornamental and is quite common as an escape in many areas. The seeds can be used as above and the plant is actually cultivated as a seed source.

This is of course the source of opium, obtained by making shallow cuts in the surface of the unripe capsules. The congealed juice is then collected and made into cakes. It is said that Opium Poppies grown in Europe don't produce much opium, but I don't know whether that is true, or simply said to discourage (illegal) experimentation.

Pastinaca sativa

Wild Parsnip

Native biennial *Apiaceae*

This is the wild form of the garden parsnip. It is native to Britain and is most common in the southeast. Cultivated parsnips often escape from vegetable gardens and becomes wild parsnips.

Caution: This is a fine wild food plant, but it somewhat resembles a number of poisonous members of the *Apiaceae* and has been confused with them with fatal results. The problem is that it is eaten while the flowers are not present to aid in identification. It is absolutely essential to know you have the right plant before using it. If you aren't then leave it alone;

Both wild and cultivated parsnips contain chemicals called furocoumarins, which can cause photodermatitis. This happens when juice from the plant gets on skin and it is then exposed to the ultraviolet rays in sunlight.

Gathering: Parsnip is a biennial and the root is best from the end of its first year, until it starts growing again in its second year. It is found by locating the old dead plants that have gone to seed and then looking around for the leaf rosettes of new plants. I already mentioned the danger of mistakenly gathering a poisonous relative, so be cautious when identifying them. Like the garden parsnip, the root is sweetest after frost has turned its starch into sugar. The later in winter you gather the roots the sweeter they will be.

Preparation: The roots have the same flavor as garden Parsnips, but are less fleshy and have a wiry central core. They are used in the much the same ways, boiled, baked, in pies and soups. It's easier to remove the cores after cooking, either individually, or by pureeing the cooked roots and then removing the fibers.

Wine: In northern Europe cultivated parsnips have been used to make a surprisingly palatable wine.

Cultivation: Parsnips are easily grown from fresh seed. They will grow in poor soils and part shade.

Petasites hybridus

Butterbur

Syn *P. vulgaris*

Native perennial *Asteraceae*

This common plant of wet soils is closely related to the Coltsfoot (*Tussilago farfara*), which it somewhat resembles. It has the same unusual habit of producing flowers before it produces leaves.

Greens: The young leaves and flower stems have been used as a pot herb and for tea, but should be used in moderation as they may contain toxic alkaloids. They aren't even particularly good.

Medicine: Has been used to treat coughs like its relative Coltsfoot (*Tussilago*).

Other uses: These are valuable nectar plants for bees. The large leaves were used for wrapping butter.

Cultivation: This species can be grown in most soils and can be propagated by division. Some species are useful as groundcover.

Petroselintum crispum

Parsley

Escaped biennial *Apiaceae*

Parsley is native to the Mediterranean, but has long been an important culinary herb in Britain. It is widely cultivated and can often be found as an escape. Be careful if you use it though, as it resembles several very poisonous species (including Poison Hemlock).

Nutrients: Parsley is quite nutritious, containing large amounts of vitamin A and C, as well as iron. However it is rarely eaten in sufficient quantity to be an important source of these nutrients.

Food: The aromatic leaves are a popular flavoring for eggs, cheese and vegetable dishes. It is also a very nice salad herb.

The thin roots have occasionally been cooked and eaten like carrots and it is sometimes cultivated for its roots under the name Turnip Rooted (or Hamburg) Parsley.

The seeds have been used as flavoring.

Medicine: Parsley is a strong diuretic and can irritate the kidneys if used in large amounts.

Cultivaton: This biennial is easily grown from seed sown in early spring or in fall (though it's quite slow to germinate). It does well in most soil types and frequently self-sows. If you are growing it in your garden, remember that the flat leaved types self-sow more readily than the curly types.

Peucadenum palustre

Hogs Fennel

Native biennial *Apiaceae*

The roots of the Hogs Fennel have been eaten, but it is too rare to use.

Phragmites australis

Common Reed

Syn P. communis
Throughout *Poaceae*

The aptly named Common Reed is common throughout the country in wetlands and marshes. The Reed is often considered a sign of useless land, which is too wet for farming, building, recreation, growing trees or other moneymaking activities. This is a rather shortsighted view, as this versatile plant has numerous potential uses. In fact land suitable for growing it could conceivably be quite valuable one day.

Flour: The perennial roots contain a lot of starch while dormant and this can be extracted and used for food in the same way as that of Reedmace (*Typha*).

Roots: The dormant roots have been roasted and eaten like those of Reedmace (Typha).

Shoots: The white shoots that appear on the roots in late winter can be broken off and eaten raw, cooked or pickled. As these elongate and appear above ground (or water), they can be peeled of their tough outer layers and cooked.

Sugar: The young growing stems are rich in sugar up until they flower and a sweet powder can be obtained by drying, pounding and sifting them. This was an important sweetener for some Native American tribes and was added to many foods to make them more palatable. They often mixed it with water to make balls, which swell when toasted like marshmallows. It was also mixed with water as a drink.

Chewing gum: The gum that exudes from wounds in the stem was sometimes chewed by Native Americans.

Seed: Though the plants are not dependable seed producers, the seed is nutritious and is occasionally produced in abundance. The seed hulls are hard to remove, so are usually left on when making flour.

Stems: The most widely utilized part of the Reed is the stem. Reed stems have been used for many things in the past; some of the commonest uses are listed below.

Boats: Boats were made by lashing the stems into long bundles and then tying the bundles together to form the required shape. These were often an important means of transportation in areas where trees were scarce. They have been as simple as a one-man canoe, or large enough to carry a dozen people on a lengthy ocean voyage.

Houses: Houses have been built using the same technique of lashing reeds into bundles and then tying the bundles together. The final form varies greatly, from simple huts to elaborate public buildings. Such houses might last 15 to 20 years and are immune to earthquake damage (a significant property in some areas). In the marshes of southern Iraq, Reed houses were once sited on islands built out of reeds and mud and made accessible by reed boats. Chopped reeds were used as reinforcement for mud bricks and walls and have been mixed into the plaster used to cover such walls to make them more weather resistant. Compressed reeds have been used to make wallboard.

Paper: In Eastern Europe large quantities of reeds are used for making paper. In the Danube delta 100,000 tons of reed paper pulp is produced annually. This isn't used alone but is mixed with 80% wood pulp. Reeds could also be used as a source of cellulose for other products.

Thatch: In Europe the durable stems are considered to be the best material for thatched roofs. They are gathered in winter, after the leaves wither and drop. These are actually superior to modern composite roofing; as not only are they longer lasting (a good reed roof should last up to 50 years), but they also provide insulation.

Other uses: Reed fibers have been used for nets, ropes, twine, baskets, mattresses, beehives and mats. The stems were dipped in oil or fat and burned as lights.

Native Americans used the stems for pipe stems, prayer sticks and lightweight arrows for hunting birds.

Pollution cleanup: Reeds thrive in water polluted with sewage or fertilizer runoff, as they take the nutrients found in such water and convert them into plant material. They can actually be used to clean up contaminated water and in Germany they have been used to purify water in biological sewage treatment plants. Reeds (and other aquatic plants) secrete substances that can kill pathogenic bacteria and their roots supply oxygen to the bacteria that handle the sewage. They have also been used experimentally to treat some kinds of toxic chemical sludge (such as material dredged from polluted river bottoms) and can actually render it less harmful.

Artificial wetlands (not just of reeds) are being created, as a final step in purifying the huge quantities of water coming out of sewage treatment plants. So far these projects have been very successful and the idea holds much promise for treating wastewater and creating wildlife habitat (natural wetlands are still disappearing in many areas). In the Netherlands they have been used to dry out reclaimed land.

Greywater treatment: Domestic greywater can be purified by passing it through a bed of gravel in which reeds are growing. It is fairly easy to make such a system for your own home

Fuel: The biomass produced when purifying water could be fermented to produce methane or alcohol (and fertilizer). The dried stems have been compressed into logs for fuel.

Animal food: The dense stands of plants are vital to aquatic birds and animals, for both shelter and food. Young plants have been used as animal feed in Europe.

Cultivation: Reeds are extremely productive plants and spread rapidly in suitable conditions. A single rhizome may grow up to twenty feet in a season and send out shoots at every node. They are quite long lived and unlike most plants can grow in dense pure stands (essentially monocultures) without suffering serious damage from insects or disease (a valuable asset for a New crop plant).

Propagate by root division or layering, in shallow water or mud. They can be used to control erosion, but will eventually choke shallow waterways unless controlled. It is a very graceful plant and attractive enough to be planted as an ornamental in shallow water (though too invasive for small areas).

Fertilizer: If you live close to a source of reeds you can have an abundant source of free fertilizer for your garden. The green or dried foliage can be composted, or dug into the soil to add organic matter. In this way you will be reclaiming some of the nutrients recently washed from the land. If you have a suitable site it may even be worth growing your own reeds (if they don't already grow there).

Phyteuma spicatum

Spiked Rampion

Native perennial *Campanulaceae*

The thick roots were used like those of the related Rampion (*Campanula*). The leaves are also edible. Unfortunately this species is too rare to be used. It is only found in woodland in parts of Sussex (you could try growing it though).

Related species:

P. orbiculare - Round Headed Rampion

Used as above, but also uncommon.

Picea species

Spruces

Cultivated *Pinaceae*

Though the Spruces aren't native and don't grow wild they are commonly planted as timber trees and ornamentals and so are often readily available.

Food: In times of scarcity the immature cones and tender candles (leaf buds) have been eaten.

Drink: A vitamin C rich tea can be made from Black Spruce boughs at any time of the year, but the best is made from the light green spring growth (add Citrus peel and honey). The same young tips can also be used to make very palatable spruce beer

Medicine: A tea of the needles may be added to bathwater to soothe aching muscles. The needles were added to sweat lodges for the same purpose.

Spruce gum: The resin that seeps from wounds in the tree is probably the best wild chewing gum and once formed the basis of a minor industry. The lumps of resin were collected in winter when they are hard and brittle, by knocking them from the trees with a pole. They were melted, strained to remove dirt and debris, allowed to cool and then broken into bite size lumps.

To chew spruce gum you must first soften it by sucking and then chew slowly. It takes a while to get used to this gum, but you can grow to like it. Unlike modern gums which lose their flavor in minutes, this one tastes better the longer it is chewed. Old time loggers said it tasted best after three days (I guess you had to make your own entertainment in the lumber camps).

Wood: Spruce wood is light, soft and strong. This species doesn't get big enough to be an important source of wood, but several others (notably Sitka Spruce) are important lumber producers. Cloven spruce is prized by luthiers for its excellent acoustical properties and is used for making violins and guitars. Spruces are commonly used for making paper, though more because of their abundance than for any special quality.

They are poor firewood, averaging about 15 million Btu per cord, but are widely used because they are common.

Cellulose: Black Spruce is also used as a source of cellulose for making rayon and cellophane. The lignin that binds the cellulose fibers is removed with solvents and the cellulose is dissolved and spun into long threads. This is used for weaving (rayon), or further treated to make cellophane and other plastics. Cellulose can be treated with nitric and sulfuric acids to make explosives.

Glue: The resin was also used for glue; most notably for gluing and caulking birch bark canoes. The hard resin was heated to melt it and then mixed with animal fat and powdered charcoal (to make it more flexible). This was applied while hot and hardens as it cools.

Rootlets: The supple rootlets may be a quarter of an inch in diameter and twenty feet long and can easily be pulled from the ground in long lengths. Native Americans considered them to be the best material for sewing birch bark canoes and other items. For fine work the roots were split lengthwise and boiled to make them supple. They can be used as emergency cord right out of the ground.

Beds: Green boughs from the tree were used to make browse beds (see *Abies*).

Cultivation: Spruces are grown from seed in much the same way as the Pines. Natural layering sometimes takes place when a branch touching the ground takes root and this could be tried as a propagation method for special varieties. This hardy climax species is able to grow in the shade of other trees and eventually replaces them.

Garden uses: Spruces grow in almost pure stands because their roots secrete allelopathic substances that inhibit other plants. This is why spruce forests are not good places to forage for food plants and why

the trees are not good for soil improvement. Strawberries actually like spruces and the needles make fine mulch for them.

P. sitchensis - Sitka Spruce

This is the most important timber species in Alaska. It has the highest strength to weight ratio of any common wood, as it is both light and very strong. It was once important for building airplanes, but is now most often used for construction, boatbuilding and pulpwood. In the mild maritime climate of southern Alaska, the young trees may grow two and a half feet per year and reach 100 feet in height in only fifty years (they make a good windbreak). They may live as long as 700 years.

Pimpinella saxifraga

Burnet Saxifrage

Native perennial *Apiaceae*

This species is quite common in Britain in dry soil. The leaves have been used in salads, as flavoring for beer. The sugar coated seeds were once eaten as a confection.

Related species:

P. major - Greater Burnet Saxifrage

Used as above.

Pingicula vulgaris

Butterwort

Native perennial *Lentibulariaceae*

This species is quite common on wet soils in mountainous areas of Britain.

At one time boiled milk was poured over the leaves and then left to ferment for two days, during which time it fermented into something like yogurt.

Pinus sylvestris

Scots Pine

Native tree *Pinaceae*

This is the only native British pine and one of only three native conifers. Strictly speaking it is only native to Scotland, but is now widely planted in the rest of Britain.

Inner bark: In late winter the inner bark (cambium) of the pines is rich in sugars and quite sweet (in a a few species it is almost palatable). Of course stripping the bark off a tree will probably kill it, which is unacceptable nowadays, but it is worth knowing they can supply food in an emergency. Many northern peoples have eaten pine bark almost regularly, when other foods became scarce

The inner bark is easiest to get in spring when the flowing sap makes it easy to peel, but of course it's most useful in winter. It can be eaten raw, but is usually cut into strips and boiled (often in soup). It has also been dried and ground to flour for making bread.

Drink: A vitamin C rich tea can be made from the needles (though you need quite a lot).

Other foods: The unopened leaf buds (candles) and immature cones have also been eaten raw or cooked. The resin has been chewed as gum.

Medicine: Pine needle tea is rich in vitamin C and has been used to cure scurvy and for sore throats, coughs etc. It has also been added to bathwater and used as a liniment for sore muscles.

Turpentine distilled from the resin has been used as a rubefacient for aching muscles, sprains etc.

Wound dressing: Resin from the trunk is a natural antiseptic and is used by the trees to protect their wounds from infection and speed healing. The resin has the same effect on human wounds and has been mixed with fat or oil as an ointment. A tea from the roots has been used as a wash for dirty wounds.

Wood: This tree is an important commercial timber tree in many areas and is very widely used for joinery, building construction etc.

Other uses: The rootlets can be used for emergency cord. The resin can be used like Spruce gum, heated and used as glue or pitch.

Garden use: Scots Pine is a fine ornamental, equally beautiful in winter or summer, but it's also planted as a timber producer, for Christmas trees and in windbreaks, shelterbelts and screens.

Cultivation: Propagate from ripe seed, sown immediately, or stratified for three months at 4°C. Pines should be sited carefully as they may secrete substances which inhibit neighboring plants and increase soil acidity.

Pine Needles: Fallen pine needles are an overlooked garden resource. They are an excellent mulch for acid loving plants such as Strawberries, Bilberries etc. They can also be used with other plants if a little ground limestone is added to neutralise their acidity. They can be dug into the soil to add organic matter (again with a little lime) and break down quickly when buried.

The needles also make an excellent material for paths and are attractive, available in quantity, free, inconspicuous and need very little maintainence (simply add more if they get dirty or thin). The only problem is they can be slippery if used on sloping ground. The shredded branches and bark is also a good for mulch or path material and have been dug into very poor soils to add organic matter (they take several years to break down).

Related species:

P. contorta - Lodgepole Pine

P. nigra - Black Pine

P. radiata - Monterey Pine

These species are all widely planted and may be used as above.

Plantago major

Great Plantain

Native perennial *Plantaginaceae*

This species is very common throughout Britain. It has followed European explorers and settlers all around the world. This fact was not unnoticed by indigenous people in several countries, who named the plant “White Mans Foot”, “Englishman’s Foot” or similar names.

Greens: In spring the tender, newly emerged leaves can be used in sandwiches and salads, or boiled as a potherb for 10 to 15 minutes. They are rich in vitamins A and C and quite nutritious. New leaves that emerge later in the year can also be used in this way.

Older leaves tend to be hairy and somewhat tough, but can be used as a potherb if you strip off the tough veins. They are better used in soups and stews (it may help to put them in blender for a few seconds). They can also be improved by covering them with an opaque container for a few days to blanch them.

Seed: Native Americans boiled the seed like rice, added it to soup, or dried and ground it to meal for baking.

Emergency wound dressing: The leaves have long been used to treat wounds, insect bites, grazes and minor burns. Crush a handful of clean leaves to a pulp and bind them on to the affected areas. An even more effective method is to chew the leaves to a pulp, as human saliva has additional healing properties.

Medicine: The mucilaginous seed of the related Psyllium (*Plantago ovata*) is very widely used as a laxative. It is one of the commonest commercial bulk laxatives and has even been added to commercial breakfast cereals for this. The seed of this species can be used in the same way though it is not as effective.

Animal food: The seeds are an important food for birds.

Cultivation: Plantain is such a common plant of disturbed soils that it seems absurd to even think about planting it (there are few places where it’s completely absent). Nevertheless it can be grown from seed or division. If that is too difficult simply transplant some from the nearest lawn.

Garden uses: Despite its abundance I don't consider plantain a bad weed, though people who absolutely must have a perfect lawn will probably disagree (it is one of the lawn lovers worst enemies). The plant even has its good points; it protects disturbed land from erosion, provides food for many forms of wildlife and attracts birds to the garden.

Related species: Many species are palatable in spring and none are poisonous, so you can experiment with any species you find. The best include:

P. maritima - Sea Plantain

As the names suggests, this is a coastal species, though it is also found elsewhere. Its fleshy grasslike leaves are a nice addition to salads and can also be cooked. They have also been pickled.

P. coronopus - Buckhorn Plantain

This species is used as above and is a good enough salad plant to be cultivated commercially in parts of Italy.

Pleurotus ostreatus

Oyster Mushroom

Native Fungus

This species grows on dead trees and fallen logs and is one of the easiest mushrooms to identify. It can be very prolific at times, sometimes producing pounds and pounds of tasty mushrooms.

Oyster mushroom is best sautéed. It has quite a good flavor but is somewhat more chewy than most fungi.

Cultivation: Oyster Mushroom is one of the easiest fungi to cultivate and can be grown on a wide variety of carbonaceous materials.

Polygonatum multiflorum

Solomons Seal

Native perennial *Liliaceae*

This species can be found in word throughout England and Wales, but is never very common.

There are a number of theories as to how Solomon's Seal got its common name. It has been suggested that the round leaf scars on the rhizome resemble the seal of Solomon, others say if you cut a section of the root that resembles the seal. Another explanation is that if a flower is dipped in ink and printed onto paper, that outline resembles the

Caution: The berries are not edible, as they contain purgative arthraquinone glycosides similar to those in Cascara Sagrada bark.

Shoots: The spring shoots can be peeled and cooked like asparagus. Taking a couple of shoots from a plant in spring won't hurt it, as it will simply produce more, but taking more than one crop would.

Roots: The root is edible, but not really good enough to justify killing the plant. The tough skin must be peeled off before use. This is most easily done after an initial boiling has loosened it (Native Americans added wood ashes to the water to hasten this). The inner root is then boiled until thoroughly cooked (frying the cooked root is said to improve its flavor).

Flour: This can be extracted from the roots by washing and macerating in the same way as described for Reedmace (*Typha*), or by grinding and sifting the dried roots. This starch can be used as a thickening agent.

Medicine: The dried powdered root was sprinkled on wounds to stop bleeding and hasten healing and is probably an antiseptic. It was also used to treat skin diseases.

In China the roots of a Eurasian species (*P. multiflorum*) have been used to treat diabetes. They also have a reputation for promoting longevity and acting as a general tonic to strengthen the body.

Cultivation: These pretty plants have been grown as ornamentals. They prefer rich woodland soil and are grown from seed or root division (ensure each piece has at least one bud).

Polygonum cuspidatum

Japanese Knotweed

Syn *Reynoutria cuspidatum*
Northeast *Polygonaceae*

This distinctive Japanese alien is becoming increasingly common as an urban weed throughout Britain (and Europe and North America). It is a good wild food, easy to identify and abundant enough to be a pest. It is also a very aggressive plant, which seems able to advance and colonize new ground inexorably.

Caution: The sour flavor is caused by oxalic acid, so use in moderation.

Shoots: The new shoots are gathered in early spring, up until they reach a foot in height and used as a substitute for rhubarb in pies, muffins and preserves (the taste is almost identical). Older stems can be eaten until they reach 2 to 3 feet in height, but you have to peel off the outer skin. This leaves a flimsy hollow tube of tender edible material.

Greens: The young leaves have been used as a potherb in Japan, after cooking in a change of water (or cook with milder-flavored greens).

Root: The rhizome is said to be edible when cooked, but not very palatable.

Medicine: All parts of the plant are mildly laxative when eaten, so use in moderation.

Animal food: The seeds are eaten by many birds. The dense stands of foliage provide cover for small animals.

Horticultural uses: Japanese Knotweed was originally introduced as an ornamental and makes an attractive deciduous screen up to ten feet tall. It is especially handsome when in flower. Unfortunately it is also invasive and hard to eradicate. Prevent it spreading by mowing around it. Eliminate it by digging, or repeated cultivation to exhaust the roots.

If you have the room you could use this species to grow material for the compost pile. Scythe it down a few times each summer to encourage new growth (and slow it down).

Cultivation: Because of its imperialistic tendencies Japanese Knotweed should only be planted in large areas, where it can spread freely. It may be grown from seed, cutting or root division, in any reasonable soil. Be warned that this isn't a plant for the timid or lazy. If you plant it you might regret it.

Related species:

P. sachalinense - Giant Knotweed

These Asian species is found in the same urban areas as the Japanese Knotweed. It is even bigger than the above, but can be used in the same ways.

Polygonum bistorta

Bistort

Native perennial *Polygonaceae*

This plant is quite common in the north of England. The leaves are rich in vitamins A and C. They are quite bland and can be used in quantity in salads, as a pot herb, or to make a traditional northern recipe, Dock pudding, which is a mixture of Bistort leaves and seasonings.

Apparently the roots have also been eaten, though they contain a lot of tannin which must be removed (by boiling them in at least one change of water) to make them palatable. I wouldn't bother though.

Medicine: The astringent roots have been used to treat diarrhea, dysentary and as a wound herb.

Cultivation: This plant can be grown from seed or division and spreads by means of creeping roots. It prefers light, sandy soils.

Polyonum viviparum

Alpine Bistort

Native perennial *Polygonaceae*

This inconspicuous plant is found in northern England and Scotland. It is only really noticeable when flowering.

Greens: The young leaves are quite palatable and may be used in salads, or as a potherb. They are rich in vitamin C.

Seeds: The seeds are edible, but the challenge is to find enough to be worthwhile. They are related to Buckwheat and can be used in the same way.

Bulbils: The specific name *viviparum* means "bearing live young" and refers to the bulbils that are often the plants main means of propagation. These can be added to salads.

Roots: The roots were an important food for the several Native American tribes and are pretty good if gathered while dormant. Young roots may be eaten raw, but older ones are better cooked. When baked they have a sweet, nutty flavor. They can also be boiled (frying the boiled roots improves their flavor), sautéed, stir fried or added to soups.

Polygonum hydropiper

Water Pepper

Syn *Persicaria hydropiper*
Native annual *Polygonaceae*

Though very acrid this species is an important culinary herb in Japan and is widely cultivated there. The seeds are sprouted in soil until a few inches high, like Peppergrass (see *Lepidium*) and used in salads and sushi. The young leaves have been used sparingly to spice up salads or potherbs, though they are quite acrid.

The seed has been used like that of Mustard as a condiment and seasoning.

Cultivation: This is an easy plant to grow from seed and self sows in my garden.

Related species:

P. lapathifolium - Pale Persicaria

P. aviculare - Smartweed

P. persicaria - Ladys Thumb Syn *Persicaria vulgaris*

These species have been used like Water Pepper.

Populus species

Poplars

Aspens

Native or introduced trees *Populaceae*

There are several native species and quite a few introduced ones. These are commonly planted in parks and gardens and may be found as escapes.

These fast growing, short-lived pioneer trees naturally colonize open disturbed land. They fulfill an important ecological role in preventing erosion, enriching the soil and providing shelter for the less hardy trees and shrubs that eventually replace them.

Inner bark: Native Americans ate the sugarrich inner bark, when food was scarce in late winter and early spring. The bark was peeled from the tree in long strips and the outer layer was removed to leave the edible inner cambium layer. This was chopped, boiled and eaten, or dried and ground to flour for baking or porridge.

Greens: The new shoots, young leaves and pistillate catkins have also been eaten, but aren't very good.

Medicine: The bark contains salicylic acid and is used medicinally in the same ways as that of the related Willows (*Salix*).

The aromatic leaf buds of *P. candicans* have been used to make a salve for skin problems, burns and wounds.

Other uses: Native Americans used the long, supple shoots for wigwams and other shelters. Smaller shoots were woven into baskets. The inner bark was used for cordage. The downy seeds have been used for stuffing pillows.

Animal food: These species are important sources of food for many kinds of wildlife, including deer, birds, hares and beaver (the inner bark is a favorite food of the latter). The inner bark has also been used to keep domestic livestock alive, when nothing else was available. Bees make propolis from these trees.

Muka: This is a dried, ground mixture of leaves (deciduous or coniferous) and very small twigs (6mm maximum) and is given to livestock as a supplement (up to 5% of their diet). This is often made using the debris from logging, but it could also be specially grown by coppicing poplar.

Wood: Generally the wood of these species is soft, weak, hard to season and splits easily. However it is often abundant (or all that remains after more valuable woods have been cut), so is used for plywood, pallets, crates, matchsticks and pulpwood.

Wood chips: The wood shreds well and so is commonly used for particleboard (perhaps its most important commercial use), wallboard, insulation and packing material. In America the use of wood chips has now spread beyond particleboard, to structural panels called oriented strand board and even structural members such as floor joists. The day isn't far off when a whole house can be built using such products (if it isn't already here).

Using chips is a very efficient way to use wood, as the whole tree can be used and there is very little waste. We may soon see coppiced plantations of trees such as these, planted to grow wood chips for building construction.

Carbon sink: There could be another benefit of growing and coppicing trees for wood chips. They could (at least in theory) help to slow global warming caused by the burning of fossil fuels and subsequent buildup of carbon dioxide. Fast growing plantations of coppiced trees absorb a lot more carbon dioxide than mature forests.

Paper: The wood is also widely used as pulpwood for making paper and some hybrid poplar plantations are now being planted for paper production.

Chemicals: Distillation of the wood can produce fuel oil, charcoal, ammonia, methanol and many other valuable products. The wood could be fermented to produce alcohol or methane.

Phytoremediation: With their deeply penetrating roots some *Populus* species have the ability to tap into contaminated groundwater and extract it from the ground. In this way they may be of help in cleaning up polluted groundwater. This is a potentially significant future use.

New crop: Some hybrids of these species are unusually vigorous and grow very rapidly. Some may add up to seven feet in height and three inches in diameter annually and reach a trunk diameter of sixteen inches in only fourteen years. They are mostly crosses of *P. nigra, P. robusta, P. trichocarpa, P. deltoides* and *P. laevigiata* and often are griven the name *Populus X euramericana.* These hybrids have a number of potential uses; as sources of wood chips, paper, renewable energy and industrial chemicals.

Coppice: When one of these trees is cut down, it sends up numerous shoots, which grow even faster than the original tree, because they are growing on established roots. See Hazel *Corylus* for more on this.

For firewood or pulpwood the stems are harvested when from 5 to 20 years old, depending on the rate of growth. Generally it is profitable to wait as long as possible before harvesting, as the trees put on more growth annually as they get larger, for at least the first 20 years or so. Of course if you cut them when 4 to 6" in diameter you don't need to split them.

Horticultural uses: The hardiness and rapid growth of these species makes them ideal windbreak and shelterbelt trees. They have also been used for rejuvenating damaged or eroded soil and as pioneers for rapid reforestation. Some *Populus* species are resistant to air pollution, but they don't make good street trees, because their roots penetrate and clog drains and they may heave paved surfaces.

Cultivation: Female poplars produce an abundance of downy seed, but this is short lived and often infertile, so vegetative propagation is important even in the wild. The plants are easily grown from hardwood cuttings, which are usually about 12" long and ½" thick, though larger ones are sometimes used. They are taken while the trees are dormant. When taking cuttings it is a good practice to make a flat

cut on top and an angle cut on the bottom, so you know which way is up. If planted six inches deep they usually root in a few weeks.

The plants will tolerate most soils, but grow best on rich, deep, soil with lots of moisture.

The hybrid poplars must have good soil and a mild climate for really vigorous growth. They don't like competition.

Rooting Hormone: Poplars can be used like the Willows (*Salix*) as a source of "rooting hormone".

Species include:

P. alba - White Poplar

P. canescens - Gray Poplar

P. balsamifera - Balsam Poplar

P. trichocarpa - Black Cottonwood

P. gileadensis - Balm of Gilead Poplar

P. tremula - Aspen

Porphyra umbilicalis

Laver

Native seaweed *Rhodophyta*

This species is common on coasts all around Britain, It is a member of the most important edible seaweed genus. Various *Porphyra* species are cultivated around the globe (notably in Japan) and worldwide production is valued at over a billion dollars annually.

Food: Laver is so important because it is one of the tastiest seaweeds. Clean the fronds by soaking them in fresh water for a couple of hours. They can then be used immediately, or dried for later use (dried fronds turn black). The fronds can be boiled until tender, or added to soups and sauces. In coastal areas of the British Isles it was rolled in oatmeal and fried, as a breakfast dish called laverbread. In Japan it is known as nori and is very widely used in sushi, sauces, tempura and soups.

Cultivation: *Porphyra* species were traditionally cultivated in Japan by embedding net-covered Bamboo poles into the seabed and leaving them until the young plants get established on them. They were then moved to less salty water in estuaries, as this produces more tender plants. They were grown in this rather haphazard fashion for centuries because no one knew how they reproduced. This mystery has now been solved and what was previously thought to be a different species is now known to be the reproductive phase of this plant. Modern nori growers can now seed their nets with spores and so get larger crops faster.

These species might profitably be cultivated in this country, if the right locations could be found.

Related species:

P. laciniata - Laver

P. miniata - Red Laver

P. nereocystis - Purple Laver

P. perforata - Purple Laver

Used as above.

Portulaca oleracea

Purslane

Throughout *Portulacaceae*

Purslane is native to the warmer parts of Eurasia, but has made itself at home in warmer areas of Britain. It is adapted to hotter climates than ours, as its fleshy moisture filled leaves help it to survive drought. It can't stand cold weather and usually doesn't appear until midsummer.

Caution: Purslane is rich in vitamins A and C and iron and is one of the best plant sources of omega 3 fatty acids. It also contains oxalic acid, so shouldn't be used excessively.

Greens: Purslane is such a good food plant that it is cultivated in many countries. Gather the tender new growing tips by pinching them off of the plant. This will encourage the plant to put out more of the same. You can take several harvests from a single plant in the course of a summer without harming it (though as a common weed you may want to harm it).

The slightly sour tips are good raw in sandwiches and salads, or can be boiled as a potherb. In China they are stir fried, added to soup and pickled. If you object to the mucilaginous quality of boiled Purslane, then try frying, or baking the tender tips with egg and breadcrumbs.

Seed: Purslane seed can be ground to flour and used alone, or mixed with equal amount of wheat or other flour, for porridge and baking, It can also be sprouted like alfalfa. Though the individual seeds are small, a single plant may produce as many as 50,000 of them, so it is possible to accumulate a useful quantity.

There is a useful shortcut to gathering the seeds. The fleshy plants contain enough moisture to flower and set seed after being uprooted. In fact uprooting actually stimulates the plant to produce seed. All you have to do is gather the plant tops in a paper bag, in a warm dry place and leave them until they dry up. You then simply crush the seed heads and collect the seed.

Medicine: The leaves have been used as a soothing poultice for burns, wounds and sore eyes. When eaten in quantity they are mildly laxative. Apparently they also contain a substance that kills dysentery bacteria.

Cultivation: Purslane has a long history of cultivation in its homeland and improved varieties are available. However in this country most gardeners are only interested in eradicating it, the idea of actually planting this vigorous weed sounds downright foolish. There is some justification for this, as it can be a bad weed if it gets out of hand. This is unfortunate though, because Purslane is also a good food crop. It grows well with pretty much no attention and is as good as any food plant you are likely to buy. In my first garden it took several years of careful neglect before I had enough Purslane growing to satisfy my needs. In later gardens I have come to have a greater appreciation of its weed status.

If you have a vegetable garden and warm summer weather, there is a very good chance you already have Purslane growing as a weed, or soon will have. It appears in disturbed garden soil as if by magic, because the seed may lay dormant in the soil for up to forty years, waiting for suitable growing conditions.

The key to controlling Purslane is not to let it set seed, otherwise a huge bank of seeds will build up in the soil. You can only do this by regular and conscientious weeding. Don't leave the uprooted plants on the soil after weeding, as they will either reroot themselves or set seed (or both).

Purslane is easily grown from seed or cuttings, in full sun and well-drained soil. The fleshy, moisture filled leaves enable it to thrive with very little water. It can't stand cold weather and in cool northern areas doesn't even appear as a weed until midsummer.

New crop: Purslane has potential as a commercial food crop, once people find out how good it is. The easiest way to use it would be in mixed salad greens.

Potentilla anserina

Silverweed

North *Rosaceae*

This attractive little plant is common in fields, roadsides and waste places throughout Britain. It gets its common name because the undersides of the leaves have a silver sheen.

Food: The starchy, nutritious storage roots can be eaten like carrot, raw or cooked. In a good stand of plants These can be a substantial food and were important to Native Americans. They dried them in quantity for winter use and the gathering season was an important annual event.

The best roots grow in loose sandy soil. Unlike many wild roots, the larger ones are usually better than small ones, which are often too insubstantial to bother with. They can be used anytime of year, but are best when dormant in fall and winter.

Medicine: An astringent tea of the leaves was drunk to cure diarrhea.

Foot cooler: It is said that people used to line their shoes with the leaves to keep their feet cool.

Horticultural uses: This plant is tasty, nutritious and easily grown and could be planted as a food crop. It spreads rapidly by means of runners (like strawberries) and has potential as an edible groundcover.

Cultivation: Silverweed can be grown from seed, or runners, in moist, sandy soil. It prefers cool weather.

Related species:

P. reptans - Creeping Cinquefoil

P. fruticosa - Shrubby Cinquefoil

These species don't produce edible roots, though their leaves have been used for tea. The latter is such a favorite forage plant for deer, that it is an indicator of overgrazing. It is sometimes grown as an ornamental.

Primula vulgaris

Primrose

Native perennial *Primulaceae*

This species is a common spring flower in England and Wales. The flowers were once popular for flavoring wine, but you would need to gather far too many for this to be reasonable nowadays (it is a lot less common than it used to be because of over-picking). The flowers and young leaves have been used in salads.

Cultivation: Propagate by seed or division in rich, moist, woodland soil.

Related species:

P. veris - Cowslip

Used as above.

Prunella vulgaris

Self Heal

Native perennial *Lamiaceae*

Food: The young leaves have been used as a salad, a potherb and in soups (though they aren't very good). They have also been used for tea.

Medicine: This common herb gets its name because an infusion, poultice or salve of the tannin rich leaves was once commonly used for treating wounds. A tea was used for internal bleeding.

Prunus Avium

Wild Cherry

Native tree *Rosaceae*

The Wild Cherry is quite common in hedgerows and woodland edge throughout Britain. It is the tallest British *Prunus* species.

Caution: Only the fleshy part of the fruit is edible, the leaves, bark and seeds are quite poisonous. They contain a glycoside called amygdalin, which is converted into cyanide when the plant cell walls are damaged. This is why the foliage may smell of almonds. The seeds have been responsible for a number of human deaths, while the foliage is a common cause of livestock poisoning. See Flax (*Linum*) for more on cyanide poisoning.

Nutrients: Cherries contain about 15% carbohydrate, vitamins A and C and are rich in copper, calcium and potassium. They were an important food for Native Americans on the plains, where they were commonly used to make the staple food *pemmican*.

Gathering: The best time to look for cherries is not in late summer when they are ripe, but in spring when the trees are in conspicuous bloom. You then know exactly where to go when the fruit ripens. The trees may be quite tall, with the fruit up out of reach.

The quality of wild cherries varies enormously. They can be sweet and good, or bitter and inedible. Taste any you find before gathering them.

Uses: The best fruits can be eaten out of hand, or added to cakes, drinks, desserts or soups. They can also be dried for later use and make a good dried snack. You can dry them whole and remove the seeds while you eat, or remove the seeds first.

Native Americans crushed the whole fruits, seeds and all and dried them into small cakes for use in soups and sauces. The fact that the seeds contain toxins wasn't important, as drying and cooking destroys the toxins.

Less palatable fruit are improved by cooking. Simply boil, strain out the skins and pits, sweeten and use the puree in pies, preserves, soups and sauces. They are good with apple or other fruits. A few seeds may improve the flavor of many Cherry dishes by adding an almond flavor.

Drinks: Cherries are often used to flavor liqueurs such as brandy or rum. A good drink can be made by boiling the dried fruit in water.

Medicine: An interesting use for cherry fruits is to treat the pain of rheumatism and arthritis. Some people claim to have had almost instant relief from these chronic pains, simply by eating the fruits on a

daily basis. You do need to eat quite a lot though, at least a half-pound of cherries daily. This is no hardship and at the very least they would be a tasty and nutritious addition to the diet.

Cherries are often used to mask the unpleasant flavor of other medicines.

Animal food: Cherries are an important food for birds (many gardeners will attest to this) and numerous rodents. Some eat the flesh, others the seed kernels and some the whole thing. The flowers are an important source of nectar for many insects.

Wood: The wood of the Cherry tree is highly prized by cabinetmakers for its beauty and fine grain. Properly seasoned it is very stable and has been used for scientific and measuring instruments, patternmaking and engraving.

Fuel: All of the *Prunus* species are good firewood, burning with a pleasant odor and giving as much as 20 million Btu per cord.

Cultivation: Sometimes known as the Sweet Cherry in cultivation, it can be grown from seed, stratified for three months at 4°C, though the fruit doesn't come true to type. Selected cultivars are propagated by grafting or budding. They like rich, moist soil. The trees are not as productive as their cousins the plums and are usually self-infertile, so several varieties must be planted for good fruit set. They can be very pretty when in bloom.

Related species:

P. cerasus - Morello Cherry

In the garden this is sometimes known as the Sour Cherry. In the wild this small tree is found in hedgerows. The fruit isn't usually very good to eat raw, but is often used for flavoring liqueurs.

P. padus - Bird Cherry

The fruits of this species are generally bitter and not very pleasant. It coppices well though.

The above species are the main progenitors of the cultivated Cherries and may often be found growing wild as abandoned orchard trees or seedling escapes. Though most seedlings are inferior to their cultivated parents some can be very good.

Prunus domestica ssp *institia*

Wild Plum

Syn P. institia

Introduced *Rosaceae*

This is the cultivated plum and is probably a hybrid of the Blackthorn / Sloe and the Cherry Plum. It is widely naturalised in hedgerows and waste places and may also be found as a relic of cultivation (these fruits can be very good).

Fruit: The fruit of seedling plants varies in quality, but can be quite good (especially after frost has mellowed their acidity). If they are too sour they can be sweetened and cooked in pies, preserves and sauces.

Medicine: Plums are not important medicinally, though the fruits are a gentle laxative (of course prunes are famous for this). In excessive amounts the fresh fruits can cause diarrhea. The seeds are poisonous as they contain cyanide.

Cultivation: Propagation and growth requirements are much the same as for larger Cherries. However the trees are smaller and more productive, so are more useful for small gardens. This species is quite widely cultivated. It is sometimes planted in hedgerows instead of the Blackthorn / Sloe. It is equally spiny, but has better fruit.

Best species include:

P. cerasifera - Cherry Plum

This species if often cultivated as an ornamental and is also planted in hedgerows. Because of this it is now locally naturalised in the south. The small fruits are quite variable, some are good raw, others are better cooked.

Prunus spinosa

Blackthorn

Sloe

Native *Rosaceae*

This species is common in the wild (except in northern Scotland) and is widely planted in hedgerows. It is very pretty when in bloom and is one of the heralds of spring.

Berries: The fruits are sour even when ripe and are most often used for jelly, or making sloe gin.

To make sloe gin the fruit are pricked and then soaked in sugar and gin (the discarded gin soaked fruit can eventually be added to apple pies).

The juice of the fruits can be used as indelible ink.

Wood: The hard wood was once favored for making clubs.

Hedges: Blackthorn suckers freely and is the second most popular hedging plant (after Hawthorn). It is usually grown from seed, but softwood cuttings, layering and division are other options.

Pteridium aquilinum

Bracken Fern

North *Polypodiaceae*

The Bracken Fern is found in northern temperate areas all around the globe and is common throughout Britain. It naturally occurs in open woodland, but has become a dominant species on moorland. Moorland is degraded land that has been deforested and then grazed by domestic livestock, which prevents forest regeneration. This plant is able to effectively take over large areas of moorland because it is toxic to most grazing animals, spreads aggressively by means of creeping rhizomes and secretes allelopathic substances that inhibit the growth of most other plants.

Caution: The newly emerged fronds (called fiddleheads in America because of their resemblance to the top of a violin) have been cooked and eaten before they uncurl. However this species contains a number of toxins and is more often included in books on poisonous plants, than in books on edible ones.

In Japan, where fiddleheads are a popular food, they have been linked to stomach and esophageal cancer, when eaten over long periods. The whole plant contains the enzyme thiaminase, which destroys the vitamin thiamine. This can be fatal to animals that eat lots of raw plant, but usually isn't a problem for humans, as cooking inactivates the enzyme. The mature plant may also cause photosensitivity.

Fiddleheads: The above-mentioned problems are reason enough for most people to avoid using Bracken fiddleheads. Not all people though, some people cook them like asparagus and consider them to be very good.

Bedding: The dead fronds have been used to make bedding for humans and animals. They can also be used as emergency blankets, by making a large pile of fronds and burrowing into it. Ideally this should be kept from moving around in some way, such as by covering with evergreen branches. Never use such a bed near a fire, as the dry dead fronds are highly inflammable (they are often used for starting fires).

Packaging: The dry fronds were once commonly used as packing material for fragile items such as pottery, fruit or tiles.

Chemicals: The fronds were once burned for their ash, which was used for making soap and glass.

Fuel: The roots have been investigated as a possible source of starch for producing fuel alcohol.

Cultivation: Bracken is unpopular with hill farmers, because it poisons livestock and crowds out more useful forage plants. Actually it is merely colonizing disturbed land prior to the reestablishment of forest, but of course young trees can't get established because livestock eat any succulent growth that isn't thorny or poisonous.

The plant is easily grown by root division, in rich moist soil and thrives in both sun and shade. Spores can be used for propagation (it is a fern and produces these instead of seed), though this is slow. It can be eradicated by repeated cultivation.

Horticultural uses: Bracken might be planted to provide organic matter and cover for wildlife, but it has several drawbacks. It can be invasive, it dies down to the ground in winter (and becomes quite inflammable) and it gets very large. In good soil it may grow to be ten feet tall.

Fertilizer: The plants are a rich source of potassium and ash from the burned plants has been used as a potash rich fertilizer. A better idea is to use the green or dry fronds as mulch, green manure or compost. Then one also gets the benefit of their organic matter and nitrogen content, as well as the potassium.

The dried foliage makes a good mulch. Its bulk and insulating properties make it useful for covering tender plants, to protect them from frost.

Pulmonaria officinalis

Lungwort

Introduced perennial *Boraginaceae*

This species has been used as a salad or potherb. It was once recommended for lung complaints, hence the name. It is not common in the wild and shouldn't be used.

Pyrola minor

Common Wintergreen

Native perennial *Ericaeae*

Common Wintergreen is no longer common. It can occasionally be found in woods over most of Britain, but is most often found in Scotland.

All parts have the aromatic and distinctive odor of wintergreen and would make good flavoring or tea. Unfortunately it is too rare to be very useful.

Pyrus communis

Wild Pear

Native Tree *Rosaceae*

The Wild Pear is native to southern England, but most of the trees you are likely to find are going to be escapes, or relics of cultivation. Which is okay as they usually have better flavored fruit anyway.

Most of what I have written about the uses and cultivation of Apples applies equally to their cousin the Pear (the Apple is often included in the *Pyrus* genus). As with Apples, the fruit of seedling trees are usually inferior to their cultivated parents, though it is worth sampling any you find. Most are probably improved by cooking.

Quercus robur

English Oak

Native tree *Fagaceae*

The Oaks are the best known and most important of British trees. They are actually a symbol of Britain, our national tree “hearts of oak” and an important part of British folklore. It was once one of our most important natural resources

English Oak can be found in woods and hedgerows throughout the British Isles. It is very variable in form, from stunted shrubs to large stately forest giants. Actually most of the oak woodland in Britain has probably been coppiced at one time or another.

The oaks provide materials for many human activities and food and habitat for more forms of wildlife than any other tree. They are quite slow growing, but can get very large during their long life spans.

Today the oaks are best known for their strong, attractive wood (or as the best firewood), but for most of human history they have been far more important as a source of food. Acorns (oak seeds) have been called the ancestral food for much of humanity and have been a primary source of food for humans almost everywhere they grow; in America, Asia, Africa and Europe.

Many native American tribes used acorns for food, but they are probably most associated with those in California. An indication of their importance to these people was the fact that families commonly held ancestral gathering rights to certain groves of trees. The acorn harvest was a major annual event in their lives and (when the harvest was good) a time for celebration, feasting and dancing (even the men helped gather them). In some places one can still find mortar holes in large rocks, used by generations of women to grind their acorns. These stone mortars were too heavy to move around, so there were permanent ones at each campsite.

Nutrients: Leached acorns contain from 5 to 20% fat, 2 to 5% protein, 50 - 70% carbohydrate and lots of minerals. The unleached nuts are inedible because they contain up to 6% percent tannin. This is quite toxic if ingested in quantity and can damage the liver.

Food: One might imagine that acorns were a subsistence food, eaten out of necessity and not very palatable, but this would be quite wrong. Certainly they don't taste very good in their raw state, but properly prepared acorns are a wholesome, if somewhat bland, food.

Gathering: In a good year a single oak tree may produce a lot of acorns and in early autumn it is often possible to gather hundreds of pounds of food in a single day. Watch out for acorns with holes in the shells, as these contain insect larvae and should be discarded. There is an easy test to see if acorns are wholesome, just put them in water. The good ones will sink, the bad ones will float.

You shouldn't feel guilty about destroying all those potential oak trees. The tree produces far more seeds than it needs to reproduce itself and at best only one in a thousand has any chance of becoming a new tree. If you do feel bad, you could plant a few of the very best acorns in a suitable spot.

Storage: Prepared acorn meal can be dried and stored, but it tastes much better when fresh, so usually only small amounts were ground and leached at one time. The tannin in the whole acorns helps preserve them and deters insects such as weevils. For storage they were dried in the sun, which also kills them so they don't germinate.

Preparation: Like their cousins the Chestnuts, acorns have a tough leathery skin rather than a hard shell. This was be removed from the dried acorns by cracking them between two rocks. You can also soak them overnight, which causes them to swell, soften and split. The easiest way to split them is with a pair of pruning shears. The kernels can be leached whole, but the process is speeded up by first grinding them to meal. The easiest way to do this is with a blender.

Leaching: Though some acorns are sweet without any preparation, most need leaching to remove their tannin. There are a number of ways to do this, but the simplest is to grind the shelled nuts to a coarse powder (easy to do with a coffee grinder, food processor or blender). You then half fill a large jar with the powder, top it up with water and put it in a fridge (or other cool place). The water will gradually leach the tannins from the acorns and turn brown. Carefully pour off the brown water daily and re-fill the jar with fresh water. When all of the tannin is gone (this takes a few days) it is ready to use.

Use: Acorn mush, made by boiling the leached meal, was the staple food of many native California tribes. It swells up considerably with cooking, so that a pint of flour may make five quarts of mush. It is quite bland, so they often added berries, ground seeds and nuts for additional flavor.

The prepared meal was also used to thicken soup, make tortillas. and to bake bread. Bread was made by mixing the meal with water and forming it into little cakes, which were dried in the sun.

The leached whole acorns can be used in breads, biscuits and muesli. The leached meal can be mixed with an equal amount of wheat flour for baking muffins, bread and pancakes.

New crop: Today the oaks are almost totally ignored as a food resource, but they could become important once again. They are probably the most valuable wild food of the northern temperate zone. It has been said that oaks produce more nuts annually than all other wild and cultivated nut trees combined. I think acorn flour has the flavor and nutritional value to be a viable commercial food product. There is a good opportunity for some enterprising individuals to produce acorn flour, breads, muffins, pancake mix and cereals.

Medicine: An astringent decoction of oak bark has been used as a douche, enema, gargle and to wash smelly feet. It is emetic so is not taken internally.

Native Americans used the mold that grew on old acorn mush to treat wounds and open sores. This sounds a lot like an antibiotic to me.

Tannin: Oak bark has long been an important source of tannin for tanning leather and this was one of the main products of oak coppice.

Animal food: Oak trees once provided food and shelter for innumerable creatures; insects, many birds, rodents, wild pigs, deer and bears. The acorn crop was an important factor in determining the population levels of many of these animals. Acorns are also valuable feed for domestic animals and the ancient custom of pannage allowed cattle and pigs to forage in oak woods for centuries (with some detrimental effect on the forest).

Wood: English oak is famous for its strength and durability. It is close grained and can also be bent readily. It was once famous for making wooden ships, for which trees growing in the open were preferred, because they had many large curved branches ideal for the ribs of ships. It was also used for building construction, fencing, cabinetmaking, weatherboards and turning. It cleaves easily and was used for making split (spelk) baskets and roof shingles.

Fuel: It is also a very good source of firewood and can be coppiced or pollarded for this.

Coppice: Oak sprouts readily from the stump when young and in Europe the trees were once widely coppiced for poles, fenceposts, basket materials, tanbark, charcoal and firewood.

Baskets: Oak splits were once a favorite material for making baskets. Saplings up to six inches in diameter were cut in spring or summer, trimmed to length and then split into strips of the desired width. These strips were split along the growth rings to make thin supple splits, ideal for weaving baskets.

Ink: Oak galls (swellings caused by insect larvae) were used for making ink, notably that used for printing money.

Propagation: Oaks are easily grown from seed. Select ripe acorns from the most suitable parent trees and plant immediately under a mulch, with protection from rodents. They die if they dry out, so keep them moist. You can plant them in containers, for planting out at a later date. The seeds naturally germinate almost as soon as they fall to the ground, their strategy being to use up their food reserves up as quickly as possible and so reduce their attractiveness as a food source. Seedlings are often abundant under oak trees and these can be transplanted successfully when very young. They need light when young and most would die out anyway.

Fertilizer: Chopped oak leaves (run them over with a power lawnmower to shred them, or put them in a dustbin and use a string trimmer) are invaluable as a soil building mulch or soil amendment. Sifted leaf mold from the forest is often used in potting soils, or for mulch. Contrary to popular belief oak leaves don't acidify the soil very much, though you might want to add lime if your soil is already acid.

New crops: Oaks improve the soil, encourage wildlife and provide timber, fuel, fodder, fertilizer and tannin, as well as an edible crop. Such useful trees could be an important component of a future farm, which relies on a mix of trees, shrubs, herbs and grasses, rather than a single species monoculture.

Related species:

Q. petraea - Sessile Oak

This native species grows is also common throughout Britain, but grows on poorer soils than the above. The sessile Oak has stalked leaves and stalkless acorns, while the English (or Pedunculate) Oak has stalked acorns and stalklessleaves. They often hybridise with each other and can be used in the same ways.

Q. cerris -Turkey Oak

Q. rubra - Red Oak

These oaks are commonly planted as ornamentals and may be found as escapes. Used as above.

Q. ilex - Holm Oak

This evergreen oak is widely planted in the south, especially in coastal areas (it's quite salt tolerant). It's acorns are less bitter than the above, though they can be used in the same ways.

Raphanus raphanistrum

Wild Radish

Native annual *Brassicaceae*

Wild Radish is common throughout England in fields and waste places. The young leaves can be used like the Mustards (*Brassica*), as a pungent addition to salads, or as a potherb. In mild winter areas the whole plants can be eaten cooked, or raw, right through the winter. The flowers and green unripe seedpods are also good in salads. The ripe seed can be sprouted like alfalfa, or used as a condiment like Mustard.

Cultivation: Propagate like the cultivated Radish. This species is as good as Mustard (*Brassica*) as a green manure or cover crop.

Related species:

Raphanus sativus - Wild Radish

This is the garden radish, escaped and reverted to its natural wild form. It is only of limited used as food, as the root that gives its cultivated counterpart its value has withered to insignificance.

Reseda lutea / Wild Mignonette

Native perennial *Resedaceae*

This species is not uncommon in England and Wales in fields and waste ground. The young leaves have been used as a salad or potherb.

Rhodymenia palmata / Dulse

Syn *Palmaria palmata*

Native seaweed *Rhodophyta*

This species is common in seas all around the British Isles and is one of the most commonly eaten British seaweeds. It is almost always found underwater, so must be gathered with a hooked stick or by diving. The fronds are at their best in spring.

The fronds are rubbery and tough when fresh, so are usually dried before use. The dried fronds are crumbled and used as a salt substitute (good on popcorn). They are also used in sauces, soup, baked in bread, fried in tempura and toasted. It is a source of carragheenan (see *Chondrus*). The natives of Kamchatka used to ferment the fronds to make an alcoholic drink.

Chewing gum: Dulse isn't chewing gum, but it was chewed like it and was popular long before chewing gum was invented. It gets sweeter the longer it is chewed, because the saliva turns its starch into sugar.

Medicine: Seafaring people believed chewing Dulse could help prevent or cure seasickness. Dulse tea with lemon and honey was used for colds.

Rhus typhina / Staghorn Sumac

Throughout *Anacardiaceae*

This North American shrub has been widely planted as an ornamental and now found as an escape in many areas.

Sumac lemonade: The fruits of this familiar shrub contain sour tasting malic acid and can be used to make a kind of "lemonade" (sumacade). The clusters of berries are gathered in mid-to-late summer, as soon as they are ripe (the earlier the better, as rain washes out the acid and the flavor). Strip the smaller clusters from the main branch (these tend to have the best flavor) and use immediately, or dry them for later use.

Bruise the berry clusters and steep them in cold water for a few minutes, to allow the flavor to come out. Don't leave them too long, or heat the water to hasten the process, as this will release tannins and spoils the flavor. Strain the liquid to remove any of the tiny, irritating hairs and other debris, sweeten as required and drink hot or cold.

If you keep adding fresh clusters of berries to the water (remove the old ones) you can make it almost as sour as lemon juice and use it instead of lemon juice in salad dressings, etc.

Seed: The seeds are quite nutritious, containing about 20% carbohydrate and 5% protein, but are covered in irritating hairs that shouldn't be eaten. Native Americans singed the hairs off the berries and ground them to flour. This was used for drinks, baking (often mixed with cornmeal), or it was roasted and used like coffee.

Medicine: A decoction of the fruits, bark or leaves is rich in tannin and has been used as an astringent for diarrhea, sore throats, urinary problems and bleeding.

Basket weaving: The stems have been used for basket weaving. They were split and soaked in water before use, to make them supple.

Other uses: The dried leaves have been smoked.

Cultivation: This handsome shrub is often grown as an ornamental. It is a typical pioneer species, fairly short lived, drought tolerant, fast growing, hardy and able to thrive on poor soil. They are grown from root cuttings or ripe seed. The latter should be sown immediately, or scarified to remove the hard seed coat.

Horticultural uses: Sumac has a fast spreading root network, which makes it useful for preventing erosion on disturbed sites. It also beautifies such places, acts as a nurse tree for less hardy plants and provides cover and food for wildlife.

Ribes nigrum / Blackcurrant

Native shrub *Grossulariaceae*

The Blackcurrant grows naturally in damp woods, mostly in southern England, but is not very common as a native. Fortunately it is widely cultivated (and persistent) and can be found as an escape, or relic of cultivation almost anywhere in the country.

Nutrients: The nutritious fruits contain up to 13% sugar, lots of calcium, copper, iron, potassium, pectin and vitamins A and C. This is one of the richest sources of vitamin C of all common fruits. It is also very rich in anti-oxidants.

Fruit: You can sometimes gather the fruits in quantity by laying sheets under the shrubs and shaking the branches. Often the stalks must be removed from the berries individually, which is a lot of work.

The best tasting fruits can be eaten out of hand, or used raw in fruit salads. They should probably be used raw in moderation, as a few species may be emetic if eaten in quantity. Most currants taste better cooked anyway and can be very good in preserves, breads, muffins and pies. They are sometimes dried for later use.

Shoots: In spring the newly emerged leaf shoots can be eaten raw or cooked.

Flowers: The aromatic flowers have been used in add color to salads. Some kinds are full of sweet nectar.

Drink: The fresh or dried leaves can be used for tea by infusing them in boiling water for five minutes.

Blackcurrant juice is a popular drink of course and you could make your own.

Cassis: This French blackcurrant syrup is commonly added to white wine or champagne. To make it (or an approximation) put the cleaned berries in a sterile container and cover with vodka or other 80 proof alcohol. Allow the berries to steep in the alcohol for 6 months. The next step is to boil the mixture and then crush and strain to get as much juice as possible. Then add an equal volume of sugar and bring back to the boil for about 10 minutes to dissolve the sugar. Finally pour into sterilized bottles and seal.

Medicine: The fruits are very rich in vitamin C and have long been used to treat scurvy. Their demulcent properties make them useful in treating coughs and sore throats. The leaves have been used as a diuretic.

The seeds contain gamma linolenic acid, the nutrient that gives Evening Primrose oil its special value.

Cultivation: These hardy species are easily propagated from hardwood cuttings taken in fall, but they can also be grown from seed, tip or mound layering. They thrive in rich, moist, shady, well-drained soil. Many improved cultivars exist, which are perfectly suited to growing in a forest garden.

Related species include:

Ribes rubrum - Redcurrant

This species is probably native, but most plants you are likely to find will be escapes from cultivation. The fruit is a little too sour to be good raw, but makes excellent jelly and other preserves. It is often mixed with sweeter berries.

R. alpinum - Mountain Currant

These plants are locally common in the north. The fruits can be very good, but are not usually very abundant. They can be used as above.

Ribes grossularia, R. uva crispa / Gooseberry

Native shrubs *Grossulariaceae*

These small are fairly common in woods and hedgerows over most of Britain, though they aren't very conspicuous. They can also be found as escapes from, or relics of, cultivation.

The berries can be used in much the same ways as the currants and are often better flavored. They can be used to make one of the best fruit pies.

Cultivation: Cultivation is much the same as for their cousins the currants and many improved varieties are available. The thorny plants are a useful addition to hedgerows.

Rorippa islandica / Marsh Yellow Cress

Native annual *Brassicaceae*

This species grows in moist soils over most of Britain. It is a relative of Watercress (which was once included in this genus) and can be used in the same ways.

Rosa species / Wild Roses

Throughout *Rosaceae*

Roses are best known as garden flowers, but there are wild species growing all over the country. Wild and cultivated roses have a very long history of human use, for food, drink, perfume and ornament.

Nutrients: The fruits, commonly known as rose hips, are so rich in vitamin C they are sometimes used as a commercial source. A cup of rose hip tea may contain as much vitamin C as six oranges. They are also rich in vitamin A, calcium, iron and phosphorus. The seeds contain vitamin E.

Gathering: The ripe fruits remain on the bushes for a long time, so you might well see old fruit still on the shrubs, when the next years hips are ripening. Their size and quality varies a lot, so you should try any ripe ones you find. Some are as small as peas, others as big as plums.

Uses: Prepare the hips by splitting them open and scooping out the seeds and tiny irritating hairs (ideally these shouldn't be eaten). The raw hips have a pleasant apple flavor and are quite good. They can be chopped into salads (both fruit or green).

The Hips are often cooked to make preserves, syrup and sauces. Rose hip syrup was widely used in Britain during World War Two, as a vitamin C supplement for children. One problem with such prepared foods is that the vitamin C breaks down quite rapidly, in only six months 50% of it may have disappeared.

The dried fruits can be added to cakes, cereals and trail mix. They may be used whole or ground to paste.

Drink: The most popular use of the hips is to make a tasty tea. Steep the fresh, or dried, hips in boiling water until they reach the desired strength, or simmer them for a few minutes. Don't throw the hips away after making one cup of tea, reuse them until their strength weakens. They are also good for sun tea.

Greens: The young leaf shoots can be added to salads.

Flowers: Rose petals are an aromatic addition to salads, sandwiches and pancakes and have even been used to make uncooked jam. Collect them as they fall from the flowers. If you take the petals too early, the flowers won't be fertilized and won't produce fruit. The unopened flower buds have been pickled.

Medicine: The medicinal value of rose hips is chiefly due to their high content of vitamin C. They have been used to treat scurvy, purify the blood, eliminate toxins and increase resistance to disease. The petals are said to benefit the intestinal flora. Rosewater makes a soothing eyewash.

Perfume: One of the best-loved characteristics of roses is their scent andrRose oil has long been prized as one of the finest and most expensive perfumes. It is expensive because as many as 250 pounds of petals must be distilled to produce an ounce of oil (known as attar of roses). The pure oil is too overpoweringly fragrant to be used by itself, so is blended with other oils, fixatives and alcohol to make perfume. The Damask rose (*R. damascena)* is the most important commercial source of rose oil.

The easy way to get the scent of roses is by enfleurage, a simple procedure that consists of steeping the petals in oil until it picks up their scent. Pack a jar with petals and fill it to the top with sweet odorless vegetable oil. Leave this for about a month, then squeeze the oil from the petals, refill the jar with fresh petals and put the oil back in. Leave for another month and then again squeeze out the oil. This oil can then be used as perfume, alone or mixed with other oils.

Another way to get perfume is to macerate the petals in a solvent such as alcohol, then strain out the petals and evaporate off the solvent (don't use an open flame, this would be very dangerous). This leaves a strongly perfumed oily substance.

Rose petals are a basic ingredient in potpourri.

Cosmetics: Rosewater is made by distilling the petals in water. One pound of petals in a quart of water will produce about one cup of rosewater. This is used for perfume, skin lotion and eyewash. The petals can also be used as a face pack to improve the complexion.

Rosaries: Rose petals were used to make the beads known as rosaries (hence the name). To make them simply crush the petals to paste, roll them into balls, thread on a string and leave to dry.

Cultivation: Wild roses are generally fairly easy to grow and species exist for almost all soils and climates. They can be grown from ripe seed, sown immediately, or stratified at 4°C for three months. Layering, tip layering and hardwood cuttings (taken early summer) also work well. Generally they prefer full sun and need little care once established.

Horticultural uses: Roses come in many forms and have numerous landscaping uses. The larger ones make fine hedge plants, their stout thorns making them almost as impenetrable as barbed wire. They also provide food and refuge for wildlife. The climbing types make good ornamentals, while sprawling ones prevent erosion. All seem to attract beneficial birds and insects to the garden, as well as a few pests.

Useful species include:

This is a fairly confusing genus for the botanist, because they hybridise readily. Fortunately they are all used in the same ways.

R. arvensis - Field Rose

R. canina - Dog Rose

R. pimpinellifolia - Burnet Rose

R. rubiginosa - Sweetbriar Rose

R. tomentosa - Downy Rose

R. villosa - Downy Rose

Rosa rugosa / Rugosa Rose

This cultivated Asian species is planted in gardens and hedges and is now bird sown and naturalised in many areas. This is fortunate for the wild food gatherer, as its hips are among the largest, tastiest and richest in vitamin C. It is very tolerant of saline soils and is often found on (or near) beaches. It is a good windbreak plant for such areas. This is an amazingly vigorous and tenacious plant and quite hard to kill. There are even improved cultivars available, bred specifically for their edible hips.

Rubus fruticosus / Blackberry

Native shrub *Rosaceae*

The queen of British wild plants, the Blackberry is very common in woods, roadsides, hedgerows and waste places throughout Britain. It has to be the most widely used wild food in Britain, as it is still commonly gathered from the wild every autumn, even in cities (they are the only wild food many people gather).

Fruit gathering: The Blackberries are a group of plants that have actually benefited from destructive human activities. They are pioneer species and can be found in almost any open disturbed areas; waste ground, roadsides, hedges and burned or logged areas. In a good season the fruits can be astonishingly abundant, almost coloring the bushes purple. This is a great plant to introduce children to wild food gathering, as it's so easy to gather the tasty fruits (so easy my dog would gather them for herself) and you can gather a lot of delicious fruit in a short time.

It's a good idea to wear tough old clothes while gathering blackberries, as it's easy to tear your clothes on the spiny canes. Serious gatherers often carry a hooked stick to reach the inaccessible branches that always seem to have the best fruit. They also carry a picking can, which is simply a container with a wire loop attached to the rim. This is hung around you neck to leave your hands free for gathering and avoiding prickles. When full it is unloaded into a larger receptacle. Some people lay a board into the middle of a thicket, to allow them to walk right in and pick the most inaccessible berries.

Fruit uses: I used to think of blackberries as slightly inferior to their cousins the raspberries, but more valuable because they are more widely available and abundant. I changed my mind when I gathered them in northern California, where the luscious fruits, warmed in the sun, were up to two inches long and as sweet, aromatic and delicious as any wild fruit I have ever eaten.

Blackberry junket: This is as simple a dessert as it is possible to make. Put the sweetest, ripest blackberries you can find though a juicer, then leave the juice to sit for a few hours until it thickens and sets. It can then be eaten with shortcake and ice cream or whipped cream.

Almost all blackberries are tasty enough to be eaten raw, though some are better than others. The best should be eaten out of hand and can't be improved upon. Other types may be improved by cooking in pies and preserves. They are often cooked with other fruits such as apples. Native Americans mashed the berries into cakes and dried them in the sun, or dried them whole

Shoots: The tender new leaf shoots and suckers were a favorite food of some Native American tribes in early spring, when other green foods are scarce. Their quality varies with species, so sample any you find. They are gathered by snapping them from the plant as low down as they break easily. If too woody to snap, they are too old to use.

The shoots can be eaten raw in salads and sandwiches, cooked like asparagus, or even added to soup.

Drinks: The leaves have been steeped for 5 to 10 minutes for tea (add dried fruit for flavor). The berries can be made into excellent wine.

Medicine: Blackberry root bark tea is a famous remedy for diarrhea and dysentery and it is credited with saving many lives during epidemics. However all other parts are rich in tannin too and can be used similarly. The leaves can be used externally to treat wounds, insect bites and scratches (including the ones received while gathering the fruit).

Canes: The flexible canes were stripped of their prickles, peeled and used for basket weaving. For fine work they were split lengthwise into quarters. They have also been used as cordage and twine for binding things.

Animal food: These species are exceptionally important as food for wildlife and all parts are eaten. Over a hundred species of birds and animals eat the fruit alone. The spiny thickets provide cover and secure shelter for many small creatures.

Cultivation: These species are easy to propagate. Root cuttings can be made from a three-inch piece of root, planted from fall to early spring. Suckers can be detached from the plant and replanted separately. They can also be grown from tip layering, simply peg down the tip, cover with a little soil and it will root (many species do this naturally, without any help). Seed can also be used, although it is slow and germinates irregularly. Plant it immediately, or stratify for three months at 2°C. Generally the plants do best on rich moist soils, with full sun or light shade.

If you don’t have enough wild blackberries growing around about, there are many superior cultivars available. These are cheap, grow fast and produce such large fruit that it’s probably not worth transplanting wild plants into the garden. Wild plants may also carry virus diseases.

Horticultural uses: Blackberries are the ultimate pioneer plants. They are able to colonize disturbed land rapidly by means of bird-sown seed and once established they can spread by rooting at the tips of the long arching canes. They are generally beneficial, if rather prickly, plants. They prevent erosion and improve the soil by adding humus. They also form spiny thickets that protect the seedlings of more tender and palatable trees. As these seedlings grow into trees the Blackberries beneath them eventually die out, or are reduced in vigor.

Blackberries attract birds to the garden, which then hopefully stay around to eat harmful insects. They also attract beneficial predatory insects.

There is a negative side to Blackberries, which I am dealing with in my present garden. They are prickly, invasive and persistent plants, easier to introduce than remove. Exhaust yourself hacking them down to the ground and they simply grow back even more vigorously. Cardboard mulch can be used to eliminate them, or at least keep them under control.

Related species:

Rubus caesius - Dewberry

Dewberry is often common in southern England. The fruits are very good and can be used as above.

Rubus saxatilis - Stone Bramble

The fruit aren't as good as the above and it doesn't bear very well, but it can be used in the same ways.

Rubus idaeus / Raspberry

Throughout *Rosaceae*

Raspberries resemble their cousins the Blackberries, but aren't usually as vigorous or aggressive. Like them, they are also common throughout Britain and can also be found as escapes or relics of cultivation.

Gathering: The hollow fruits are easily crushed when gathering, so should be gathered into a shallow container. If you don't have one, try threading them on to a long blade of grass like a pearl necklace.

Preparation: Raspberries are never better than when eaten raw, but can also be cooked in pies, sauces and preserves. They can be frozen or dried for later use.

Shoots: The tender spring shoots can be eaten like those of the Blackberry and taste even better.

Drink: Raspberry vinegar used to be a popular cooling summer drink. Crush the fruits in white vinegar, steep to the desired strength, sweeten and mix with water to taste. Raspberry syrup is made by boiling the fruits with honey and water. A spoonful of syrup is mixed into a glass of water. Use sparkling mineral water for a special treat.

Raspberry leaf tea is sometimes drunk for pleasure, though I don't consider it to be very good.

Medicine: Raspberry leaf tea is still drunk regularly by many women during pregnancy, as it appears to make delivery easier. It is also used to relieve menstrual cramps. Apparently the leaves contain a substance that stimulates smooth muscle.

The leaves are used externally in ointment for burns. They can be used alone, but are often mixed with Comfrey (*Symphytum*).

The fruits are said to be beneficial for the throat and were once eaten with honey for this. They are also a tasty and pleasant laxative. All rRaspberries are very rich in anti-oxidants.

Canes: The canes can be used like those of Blackberry for basket weaving.

Tooth cleaner: The fruits have been used like Strawberries (*Fragaria*) to clean the teeth.

Cultivation: This is the ancestor of the garden Raspberries. It is cultivated in much the same ways as the Blackberry and has the same garden uses. Many cultivars are available, with red, yellow or black fruit. One interesting variety is a prostrate groundcover Raspberry from the Arctic.

Related species:

Rubus chamaemorus - Cloudberry

This yellow-fruited species is very good, but isn't usually produced very abundantly in Britain.. It is found in the cool north and on mountainsides in Scotland up in the clouds. It is cultivated commercially in Scandinavia.

Rumex crispus / Curled Dock

Native perennial *Polygonaceae*

This species is a common weed throughout the British Isles. The Docks are familiar to almost everyone, as they are among the commonest and most widespread of weeds. Their success is due in large part to their amazing fecundity: a single Curled Dock plant may produce 30,000 seeds (some of which may remain viable for up to fifty years). Often seed isn't even necessary for perpetuating the species, as many are tenacious perennials and can get along quite well by vegetative means alone. Needless to say they are unpopular with many gardeners.

No member of the *Rumex* genus is poisonous, though they do contain toxic oxalic acid (see *Oxalis*) and many species are too tough, bitter or astringent to be edible.

Nutrients: This species is very rich in vitamins A (up to 7000 i.u. per ounce) and C. It also contains many minerals and is one of the best plant sources of iron Unfortunately it is also high in toxic oxalic acid (see *Oxalis*), so should be used in moderation.

Greens: In mild climates this hardy plant grows right through the winter and at this time it can be a very good potherb. The tender young leaves are a nice addition to salads, or may be boiled as a potherb for 5 to 10 minutes. Older leaves are bitter, but can be made more palatable by cooking in a change of water for 10 to 15 minutes. If they are astringent you might add a little milk to the cooking water. The leaves don't shrink much in cooking, so you don't need to gather a huge amount.

Seed: In autumn the abundantly produced seed can be threshed, winnowed and ground to meal. This can be used in bread, pancakes and porridge. It tastes better if it is toasted before grinding.

Medicine: Dock greens stimulate the liver and are slightly laxative. They have long been eaten as a spring tonic, to cleanse and purify the blood after a winter without fresh green vegetables. They were also used to treat anemia and are effective because of their high iron content.

The leaves and roots have been used as a soothing poultice for wounds and Nettle stings.

Cultivation: I can't imagine anyone wanting to grow this weed, though the related Patience Dock (*R. patienta)* is occasionally cultivated as a potherb. It can be grown from seed or root division, in almost any type of soil. Be careful where you put it however, as it can be hard to eradicate once established. Removing Docks is a problem because if any fragment of the brittle root is left in the ground, it will grow into a new plant. They can be eradicated by repeated cultivation, which eventually exhausts the roots, or by smothering with a mulch of cardboard, organic material or plastic.

Like many weeds, the Docks are be beneficial to the soil. Their deep roots mine the subsoil for nutrients, while the large fleshy leaves add organic matter.

Related species:

No member of the Rumex genus is poisonous, though many are too tough, bitter or astringent to be considered edible. Any species producing palatable leaves or abundant seeds can be eaten as described above (in moderation, remember they do contain oxalic acid). The most useful species include:

R. aquaticus - Red Dock

R. alpinus - Monks Rhubarb

R. hydrolapathum - Great Water Dock

R. patienta - Patience Dock

R. sanguineus - Bloodwort

R. obtusifolius - Broad Leaved Dock

Rumex acetosa / Common Sorrel

Native perennial *Polygonaceae*

Common Sorrel is common throughout the British Isles in grassland and waste places.

Caution: The characteristic sour flavor of Sorrel is produced by oxalic acid, which makes the plant mildly toxic if eaten raw in large quantity (cooking reduces this considerably). Oxalic acid can damage the kidneys and inhibits the absorption of calcium.

Greens: This hardy plant often stays green all winter and doesn't get bitter in summer, so can provide food year round. The arrowhead shaped leaves are a good minor addition to salads and can even be used in salad dressings instead of lemon or vinegar.

Sorrel is also a fine potherb if you change the cooking water once or twice, to reduce the sour flavor. This also reduces the oxalic acid content. It is recommended that you don't use aluminum or copper cooking pots when cooking Sorrel, as the acid may react with them (personally I wouldn't use them to cook anything else either). Sorrel soup is a delicacy in France.

Medicine: Sorrel leaves were used as an antiseptic poultice, or wash, for wounds and sores.

Cleaner: Sorrel leaves have been used to remove stains from the hands and are probably effective because of the oxalic acid. This acid is used as an industrial metal cleaner.

Cultivation: Common Sorrel has been cultivated as a potherb, though not as often as its cousin French Sorrel (*R. scutatus*). It is easily grown from seed, or division, in most soil types, though it prefers slightly acid ones. It will grow in full sun or part shade. If you are growing it as a potherb, cut off the flower stalk as it appears, otherwise energy will be channeled away from leaf production.

Related species:

R. scutatus - French Sorrel

Also known as Shield Dock, this species is highly esteemed in France and a few cultivated varieties exist. It is sometimes found as an escape.

Rumex acetosella - Sheep's Sorrel

This species is smaller than the Common Sorrel, but can be used in the same ways. It can become a weed in gardens if you let it get out of hand. It is an indicator of acid soil and might be eliminated by making the soil more alkaline. Do this by adding a liming agent such as wood ashes or ground limestone.

Ruscus aculeatus / Butchers Broom

Native shrub *Liliaceae*

This species is unique among British members of the Lily family in being the only shrub (if a small one). It is found in southern England and in parks and gardens elsewhere.

Shoots: The young shoots have been cooked like asparagus and are quite good.

Foliage: It's said the plant got its' name because the spiny branches were once used as brushes by butchers (and others). Berry bearing branches have been used as Christmas decorations.

Cultivation: This small evergreen shrub is sometimes planted as an ornamental. Propagate by division (easier and faster) or seed, in woodland soil.

Sagittaria sagittifolia / Arrowhead

Native aquatic perennial *Alismataceae*

This species is found in ponds and slow moving water throughout England. Arrowhead provides one of the best wild edible tubers. These were a staple winter food of some Native American tribes and were gathered in large quantities for winter use. In Asia this species is cultivated as a food crop.

The tubers of any species can be eaten, though they vary considerably in size, according to species and growing conditions. Some are as small as a pea, others as big as an egg.

Gathering: The tubers are at their best while dormant, in late fall and winter, when they swell with stored food. They grow in mud or shallow water, with the tubers often several feet from the visible plant. You can't pull on a plant to uproot the tubers, as the roots will simply break off. Instead you must carefully work your way along the roots. Native American women used to wade in the mud and loosen the tubers with their feet, whereupon they rise to the surface, but this can be a cold job at that time of year. Modern foragers usually wear rubber boots and use a potato hook (or at least a hooked stick).

Gathering the tubers may seem destructive, but many tubers will remain in the mud to grow into new plants, so it usually doesn't do much harm.

Preparation: The tubers are acrid and unpleasant when raw, but develop a sweet flavor when cooked. They are quite a substantial food and can be used in the same ways as potatoes: boiled (15 minutes), baked (30 minutes at 175°C) or fried. You don't need to peel them, but if you really want to it's easier after cooking. Native Americans mashed and dried them in large quantities for winter use.

Horticultural uses: These attractive, aquatic perennials are often planted as ornamentals in shallow, slow moving water. In China their native species is commonly cultivated for food in irrigated fields and improved cultivars are available.

Cultivation: Probably the easiest way to grow Arrowheads is from wild tubers, planted three inches deep in shallow water. Seed can also be used. Start it two inches deep in a nursery bed and transplant to its permanent position when the plants are a year old.

Salicornia europaea / Glasswort

Coastal areas *Chenopodiaceae*

Glasswort can be found on salt marshes in the south and east of England. These odd looking plants are adapted to grow in the hostile conditions found on the seashore, salt marshes and saline soils inland. Their leaves have been reduced to small scales to reduce water loss and the thick succulent stems help them to tolerate high salt levels.

Greens: These distinctive and easily identified plants are a very good wild food. The stems of young plants are a pleasant (if slightly salty) addition to salads and sandwiches. You can reduce their salinity by washing thoroughly, or by soaking in fresh water.

The young plants, or the tender growing tips of older plants, can be steamed for a few minutes as a potherb. Don't cook too long though, or they will turn to mush. They can be added to other greens or soups, at the end of cooking, as a combined vegetable and seasoning (they contain all the salt you would need). They have also been pickled.

Older parts still have good flavor, but develop a wiry core that isn't very pleasant. To solve this problem some foragers make a puree of cooked shoots and discard the fibrous parts.

Seed: The edible seed has been used like that of its cousin: Lambs Quarters (*Chenopodium*).

Chemicals: In the past the plants were dried and burned in large quantities and the resulting ash (mostly sodium carbonate) was used for making glass and soap. This is how they got their common name. This could be leached with limewater to make sodium hydroxide, which could then be used as an ingredient in wild biodiesel.

Animal food: These plants have been used as forage for livestock, notably sheep.

New crop: In addition to being halophytic (adapted to saline soils), Glassworts are also xerophytic (adopted to dry conditions). This means they can grow in areas of low rainfall and on land where irrigation has caused salt to accumulate to toxic levels. They have been investigated as a potential crop plant for such areas. They may also be worth investigating as a garden crop, as they actually grow better and taste better, if irrigated with fresh water.

Cultivation: Propagate from seed. Some species will actually germinate in seawater, although they prefer fresh water.

Salix species / Willows

Native or introduced trees *Salicaceae*

Various species of Willow can be found throughout the British Isles. Though they aren't of much use as food, they do have several unique and important uses. They prefer wet soils near water and are some of the most reliable indicators of wet ground. They are mostly pioneer species, fast growing, short lived, needing full sun to thrive (they are intolerant of shade) and reproducing readily by seed and vegetative means. They are among the first trees to get established on marshlands and help to dry them out for other plants.

Famine food: Most Willows aren't really edible, though they have been used as survival food. The young catkins, leaf shoots and inner bark, have all been eaten raw, or cooked for 10 minutes, but they aren't very good.

Medicine: The plant has been used externally as an antiseptic wash or poultice for wounds.

Willow and aspirin: Willow bark tea was once an important medicine. It is a diaphoretic and reduces fevers by increasing the flow of blood to the skin and causing sweating. It also kills pain and reduces muscle and joint inflammation, such as is experienced in arthritis. It is now known that the bark contains salicylic acid, which is a close chemical relative of aspirin. Aspirin was actually developed as a gentler substitute for willow bark.

Willow bark tea is usually made from the bark of 2 to 5 year old twigs. Steep two teaspoons of bark, or a quarter cup of chopped twigs, in a cup of water for ten minutes. A cup of tea is equal to two or three

aspirins. It tastes pretty awful, though honey and milk may be added to reduce its astringency and make it more palatable. It may also upset your stomach, so you probably won't use it unless you really need it.

Fuel: Willow wood contains a lot of water, which makes it poor firewood. It gives about 13 million Btu per cord on average (about half the fuel value of Oak). However the wood has long been prized for making charcoal for drawing, gunpowder and medicinal purposes.

Some strains of Willow grow twice as fast as others of the same species and have been used experimentally in energy plantations. They are coppiced on a short rotation of 2 to 4 years and converted to chips for use as fuel. An acre of these plants might yield the energy equivalent of about 25 barrels of oil annually. If fertilized with sewage sludge (which is generally unsuitable for food crops), these could be a useful source of energy.

Chemicals: Though the Willows are poor firewood, they have potential as a source of fuel and chemicals, extracted by wood pyrolysis (distillation). This yields methanol, methane, wood oil, tar, pitch, creosote, charcoal, acetic acid and other valuable chemicals.

Wood: Willow wood is light and weak, but very shock resistant and has been used for sports equipment (English cricket bats are made of Willow), artificial limbs and polo balls. It is durable if kept wet, so is sometimes used for pilings and revetments. In the middle ages the long, supple shoots were widely used to build scaffolding for the construction of large buildings such as cathedrals. It was lashed or woven together, much as bamboo is still used in Asia.

Tanning: Willow bark was used to tan some of the very finest leathers.

Down: The downy seed has been used like that of Reedmace (*Typha*), for stuffing clothing and pillows.

Basket weaving: Basket weavers prize the slender, supple shoots as perhaps the best of all materials for their craft. The shoots are usually cut in winter, or early spring before the leaves appear, but for rough work they were sometimes harvested in summer. The cut stems were stored upright, with their butt ends in water. For fine basketwork the bark must be peeled off, which is most easily done in spring, when the sap is rising. If gathered at other times it is necessary to boil the shoots to loosen the skin. They are peeled by pulling through a V shaped notch in a board and are then dried for storage. They are soaked in water overnight prior to use, to make them supple.

Larger poles and shoots were used for weaving wattle fencing and walls, gates, cart sides, boats, fish and eel traps and chairs.

Brooms: These were once made out of the finer twigs, in much the same way as Birch (See *Betula*).

Animal food: These species are an important source of food for wildlife, including deer, beaver, moose, hares, ptarmigan and many insects. Goats and cattle will eat the foliage quite enthusiastically and it can be dried for winter use. The pollen is a source of food for bees early in the year.

Muka: The name comes from Latvia, where this idea was first developed. Muka is a dried, ground mixture of leaves (deciduous or coniferous) and very small twigs (6mm maximum) and is given to livestock as a supplement (up to 5% of their diet). This is often made using the debris from logging, but it could also be specially grown from coppiced trees. It has been estimated that a plantation of Willow might produce as much as 12 tons of Muka per hectare annually.

Propagation: Willows are easily propagated vegetatively. Even in the wild cuttings are an important method of reproduction, as the brittle twigs break off in storms and float off downstream to take root anywhere suitable conditions exist. Willows logs used for fenceposts and revetments have been known to sprout and grow into trees.

Propagate the trees while dormant, by simply hammering a 2 to 3 foot long shoot half way into the ground. Take care to plant it the right way up and not to split the top. Smaller shoots can be pushed directly into the soil. If given rich, moist soil and full sun, they grow rapidly.

They can be grown from seed, but this must be planted immediately, as it doesn't remain viable for very long.

Horticultural uses: Willows are often unpopular with homeowners because they continuously drop branches, twigs and other debris. Another drawback is their tendency to clog drains and ditches, as their roots go searching for water.

Their affinity for water makes them useful for preventing erosion of stream banks and levees and they are often planted for this purpose. They may increase fish populations by providing shade and attracting edible insects. The low shrubby types are best for this, as large trees may dry up small streams in dry summers.

An interesting idea is to grow a coppiced Willow hedge, by planting two rows of cuttings. Plant them 12" apart in the rows, with 36" between the rows. These can be cut every year for basket making materials, or every 3 years for biomass. This gives you a productive summer hedge, which also makes an attractive screen.

Rooting substance: Willows are able to root so easily because they contain a growth promoting substance. Professor Makota Kawase at the Ohio Agricultural station discovered that an effective rooting substance can be prepared by steeping the chopped shoots in water for 24 hours. This was also found to increase the effectiveness of commercial rooting hormones. It is also useful for pre-soaking seeds and for watering seedlings.

Coppice: Willows sprout readily from the stump and were some of the most important species for coppicing. Growing Willow for basket making was once a major industry in Europe. In some parts Willow gardens were almost as common as vegetable gardens. They supplied material for baskets for household use and for sale to provide income. Such a garden can still be profitable today. You could sell the shoots, or make baskets from them and sell those.

If you plant the cuttings 12 inches apart, you can get as many as 20,000 on an acre of land. Once established these may grow 10 - 12 feet in one season and can be cut annually. This is so easy that anyone into basket weaving should grow their own (even if it means planting the cuttings on land you don't own). See Hazel (*Corylus*) for more on coppicing.

Pollarding: In parts of Europe with a lot of livestock Willows in hedgerows were commonly pollarded instead of being coppiced. This consists of cutting the top off the tree, leaving only the trunk, about 6 to 10 feet tall. This would cause the tree to send up a cluster of shoots, well out of the reach of livestock or deer. These shoots could be cut annually just like those from coppiced plants.

Useful species include:

The Willows are the most numerous group of British trees, though the exact number of species is unclear because the hybridise readily.

S. alba - White Willow

This species is used for basket weaving, though it isn't as good as some others. The subspecies *coerulea* is the Cricket Bat Willow, which is cultivated for use in making cricket bats and was once used for making artificial limbs. The subspecies *S. alba var vitellina* was once used in nurseries for tying bundles of plants together.

S. repens - Dwarf Willow

This species is commonly planted to bind sand dunes.

S. triandra - Almond Willow

The light, tough shoots are excellent basketmaking material.

Salix viminalis - Osier Willow

Also known as Basket Willow, this is perhaps the best species for basket weaving and was once widely cultivated for this. Coppiced Osier is our fastest growing tree crop, being harvested every 1 to2 years.

S. purpurea - Purple Osier

This is the other species that is commonly cultivated for basket-making and many cultivars exist (if you can find them). It is native, but not common in the wild.

Salsola kali / Saltwort

Syn S. iberica
Native annual *Chenopodiaceae*

This native plant can be found in coastal areas around Britain, but isn't very common.

Caution: All parts of the plant contain oxalic acid, so should be eaten in moderation. In some soils they may also become toxic by concentrating nitrates.

Greens: This plant is only edible for a short period in spring, when it first appears. At this time it produces what is considered to be one of the very best wild potherbs. The grasslike 2 to 5 inch shoots can be cooked like asparagus; boiled, steamed, sautéed or added to soups. They have also been eaten in salads, but must be chopped very finely, as they can be irritating. The tender growing tips of older plants have been eaten later in the year, but aren't as good.

Seed: The abundant seed can be used like that of the related Lambs Quarters (*Chenopodium album*).

Glass: These species have been used like the related Glassworts (*Salicornia*), as a source of ash for making glass and soap.

Animal food: This weed is almost as good as Alfalfa as a livestock food. Young plants can be eaten directly, while older ones have been used to make protein rich silage. Since the plant grows better than almost anything else in some arid areas, it might profitably be cultivated as a forage crop.

Cultivation: This hardy and drought resistant plant is often the last green growing thing in a parched brown landscape. It can be grown from seed in most soils, even very alkaline ones and self-sows easily enough to become a nuisance.

Related species are cultivated in China and Japan for use as potherbs.

Salvia verbenaca / Clary Sage

Native perennial *Lamiaceae*

Clary Sage isn't uncommon in the south of England in grassland. The leaves have occasionally been used as a culinary herb (though it doesn't taste like common garden sage). The mucilaginous seeds were used to soothe the eyes.

Sambucus nigra / Elder

Native shrub *Caprifoliaceae*

Elder is very common throughout the British Isles in hedgerows, woods and waste ground. This vigorous pioneer plant is often considered a weed as it colonises disturbed or abandoned ground. It is one of the fastest growing British shrubs and has several valuable uses, so was quite an important wild plant at one time.

Caution: The young spring shoots are occasionally reccomended as food though all green parts contain toxins and some authorities consider them quite dangerous.

Fruit: These bushes often produce an abundance of fruit. Gather the fruits by picking the whole cymes of berries. Take these home and strip the berries off individually with a fork (this can be rather tedious). Generally the berries are not very good raw and some people have trouble digesting them. They are much better cooked in preserves, pies and sauces. Drying also improves their flavor and of course helps preserve them. The berries have also been used as purple food coloring.

Flowers: The flowers appear in abundance in May and June and were once widely used for flavoring (and making a comeback). Some plants are better than others so its good to trey them before gathering. They are mostly used for flavoring cakes, fruit preserves, ice cream and fruit pies. The whole flower heads can be dipped in batter and deep-fried as a dessert.

Drink: Elderberry syrup, made by boiling the berries with sugar, is mixed with water and lemon juice to make a cooling summer drink. The berries and flowers have both been used to make exceptionally good wines. The dried flowers make pleasant tea, alone or with other herbs (they are often mixed with black Tea). A carbonated drink called elderflower presse is now available commercially. It reminds me of childhood walks on summer evenings.

Medicine: Elder was once used for respiratory, liver and kidney problems, menstrual cramps and as a blood cleanser, diuretic and a mouthwash. The berries are a mild laxative. Elderberry extract has been found to decrease the duration and severity of influenza, by inhibiting virus replication and boosting the immune system

A tea of the flowers has been used as an antiseptic wash for burns, skin infections and wounds.

The fruits contain a sugar (3-rhamnoglucoside) that is very beneficial to the eyes. It may even help slow eye degeneration caused by ageing. They also contains substances that may be beneficial to the brain and other substances that help to detoxify the body.

Wood: In Europe it was considered unlucky to use Elder wood, as it was a magical plant, protected by fairies and witches. This is no real loss, as it is poor fuel and usually too small for anything else.

Animal food: Elders are important food plants for many birds. The flowers provide food for many small insects.

Cosmetics: The berries were used as hair coloring by the Romans. They will also color your skin, so be careful. A wash of the flowers has been used to lighten the hair and skin.

Twigs: The twigs are easily hollowed out to make a tube, simply remove the core of light pith. These tubes have been used for tapping maple syrup, whistles, flutes and blowpipes. They were also used for bellows for stoking a fire and this may be the origin of the common name, which is derived from *aeld*, an AngloSaxon word meaning fire. An alternative explanation of the name is that the wood was once used for making fire by friction. The pith is one of the lightest solids known and is useful as tinder.

Cultivation: Though Elders can grow almost anywhere, they prefer rich moist soil, with full sun or part shade. They are most easily propagated from hardwood or semiripe cuttings, preferably 12 to 18” long with several buds. You can also plant the ripe berries, but they may not germinate for two years. They can also be grown by layering, or by detaching suckers from the main plant.

Horticultural uses: Elder commonly occurs in the hedgerows of Europe, but it isn’t a good barrier plant and is often removed when laying them. It is useful in other ways though, as a source of the many materials mentioned above. In pagan times it was thought to protect the garden and fields from evil. Some species are grown as garden ornamentals, or to attract wildlife with their flowers and fruit.

Elder suckers freely and its spreading habit has been put to good use by planting it on eroded, burned, strip-mined or otherwise damaged land. They are a good source of organic matter.

A number of improved cultivars are available that bear superior quality fruits and these are quite popular in cool climates. They are productive, attractive, hardy and little bothered by pests. They fruit on second year wood.

Related species.

S. ebulus - Dwarf Elder

Used as above. Once known as Danewort, not as some claimed because it sprang from the blood of vanquished Danish vikings, but for the much less glamorous reason that it was used to cure “the danes”, which was an old word for diarrhea. (something of a let-down). Which makes me wonder whether they deliberately used the word for Viking for diarrhea (they probably didn’t but it’s a thought).

Sanguisorba officinalis / Great Burnet

Native perennial *Rosaceae*

This species is quite common in damp ground in the north.

Food: The young tender leaves, gathered before the flowers appear, will add a cucumber flavor to salads. Older leaves can be cooked as a potherb, in stir fries, soup, or added to wine.

Medicine: The genus name is derived from the Latin word sanguis (blood) and sorbere (drink), which indicates the plants most important medicinal use. The astringent root has long been used as a poultice for wounds, bites, stings and burns. Always sterilize such poultices to ensure they are perfectly clean, otherwise you could introduce tetanus or other infections into a wound. Other parts of the plant have been used in the same ways, but aren’t as good.

Cultivation: Great Burnet is attractive enough to be used as an ornamental. It is easily grown from seed, or root division and prefers poor dry soils, with part shade.

Related species:

Sanguisorba minor - Salad Burnet

This species can be used as above and in mild climates it can be gathered year round. It is actually better for food than the above. It is a nice addition to salads..

Saponaria officinalis / Soapwort

Native perennial *Caryophyllaceae*

This species is quite common in hedgerows and waste ground in England and Wales. It is probably native, but also often occurs as an escape from cultivation. Soapwort has been cultivated for its beauty and utility.

Caution: Soapwort is actually quite poisonous, as it contains up to 30% dry weight of toxic saponins.

Medicine: The entire plant is useful for skin problems and cleaning wounds.

Soap: The saponins in the plant make it a useful soap substitute, which explains the common and generic names. If you take a handful of stems, leaves or roots and rub them on your hands with water, you will get a cleansing lather. The whole plant (fresh or dried) can be used as soap, shampoo or a general cleanser.

A good way to use Soapwort is to boil the clean chopped roots in water, then strain and use the liquid like detergent. This liquid makes an excellent shampoo and can be mixed with other "hair herbs", like Nettle, Comfrey or Yarrow, to make your own shampoo.

The plant was once known as Fullers Herb (a fuller is someone who dyes cloth), because of its importance to the textile industry there. Prior to the introduction of modern detergents it was used in large quantities to soften water and clean fabrics prior to dyeing. It was also used domestically to clean clothes. It has a very gentle cleansing action and has been used in museums to wash fragile old fabrics. It may even help to preserve them, as it contains a fungicide. The plant was also known as Bouncing Bet, though I don't know why.

Other uses: Extracts of the plant have been used to give beer a foamy head. The sweetly scented flowers have been added to potpourri.

Cultivation: With its sweet scent and long blooming season, Soapwort is an attractive ornamental, but it is too aggressive for small gardens. It was commonly grown in the cottage gardens of England, probably tolerated because of its special properties. It can be grown from seed, or creeping rhizomes and thrives in almost any soil. Take care to confine it, or it will spread energetically.

Satureja Montana / Winter Savory

Escaped perennial *Lamiaceae*

This small perennial is widely cultivated and can often be found as an escape.

Flavoring: This pleasantly flavored plant has long been prized as a culinary herb, especially for bean dishes. It is also good for tea.

Medicine: Savory is used as a carminative and antiseptic.

Cultivation: Savory can be propagated by seed, cuttings or division, in well-drained soil with full sun or part shade.

Scirpus lacustris / Bulrush

Syn *Schoenoplectus* spp

Throughout *Cyperaceae*

This aquatic species is found all around the Northern Hemisphere, including most of Britain. It is one of the most useful of all wild plants and supplied primitive peoples with many of the necessities of life.

Caution: If there is any possibility of biological contamination from polluted water, don't eat any part of these plants raw. If chemical pollutants are suspected, don't eat them at all.

Roots: All of these species have starchy edible rhizomes, though their usefulness for food varies. The best part is the newest growth at the end of the rhizome. This contains a lot of sugar and can be peeled and eaten raw.

Native Americans roasted the roots for several hours in a fire pit, then peeled off the skin and ate the interior. They also boiled the peeled and chopped roots for 30 minutes. These were eaten as a vegetable, added to soup, or boiled down to a kind of porridge. At the base of the old stem, there is a tender starchy core that can be eaten raw or cooked.

Flour: A sweet flour can be extracted from the starchy roots in the same way as from Reedmace (*Typha*).

The flour can be used like cornstarch, or mixed with wheat flour for bread and pancakes.

Root buds: New buds develop on the roots in autumn. These can be eaten, raw or cooked, right through the winter, up until they start to elongate the following spring.

Seed: Bulrushes also provide edible seeds, though the harvest is very irregular. In some years none is produced at all, while others bring an abundance. It is prepared and used like Lyme Grass (*Elymus*).

Pollen: The pollen has been gathered and used like that of Reedmace, for bread, pancakes and porridge.

Stems and leaves: These have been used in much the same ways as the Reedmace (*Typha*) and Reed (*Phragmites*), for thatch, boats, mats, baskets and cordage.

The stems and leaves are at their best for weaving in early summer when most flexible. They are gathered at that time and dried until needed. They are soaked in water overnight, prior to use, to make them flexible.

Animal food: Bulrushes are important to wildlife for food and as cover from predators. Young green plants have been used as livestock forage.

Pollution cleanup: This species is very efficient at removing suspended solids (phosphates, nitrates and other organic and inorganic compounds) from water and potentially has great value for cleaning up polluted water. In Europe it has been used successfully in sewage treatment plants, to decompose sewage and eliminate harmful bacteria. It has also been used in domestic greywater treatment systems. See Reed (P*hragmites)* for more on this. The plants grow quickly on a rich diet of phosphates and nitrates (up to twenty times faster than normal) and produce large amounts of organic matter. This has many potential uses.

Fuel: The abundant organic matter produced by sewage treatment plants could be fermented to produce methane and organic fertilizer. The starchy roots could be used to produce alcohol.

Fertilizer: The abundant foliage is good mulch or compost material.

Cultivation: These perennial plants are most easily propagated from pieces of rhizome. They prefer very wet soils, or shallow water. Unlike the Reedmace they can also grow in slow moving water.

Useful species include:

No *Scirpus* species is poisonous and probably all are edible.

Sedum telphium / Live-Forever

Native perennial *Crassulaceae*

Live-Forever gets its common name because an uprooted plant can live for a long time on the nutrients and moisture, stored in the fleshy leaves. It is quite common in most of England in woods and hedgerows.

Caution: Use in moderation, as they may be emetic if eaten in quantity.

Greens: The succulent young leaves are best when eaten in spring, before the flowers appear. They have been used raw, cooked or pickled.

Roots: The tuberous roots are dug while dormant and eaten raw, cooked or pickled.

Medicine: The leaves have been used as a poultice for burns wounds, skin irritation and even cancer. They have been taken internally for diarrhea.

Cultivation: Live-Forever is a favorite ornamental perennial for rock gardens. Some species have been grown as salad plants. Propagate by division, seed or cuttings (taken in late summer) in well-drained soil.

Related species include:

Only a few species are good enough to be worth eating. They tend to be more highly esteemed in northern areas, where wild greens are less abundant. The best include:

S. divergens - Spreading Stonecrop

Used as above.

S. reflexum - Reflexed Stonecrop

The leaves have been eaten raw or cooked, but it is not common enough to be very useful.

Sedum roseum / Roseroot

Syn Rhodiola rosea

This species has edible roots that smell something like roses. These are said to have adaptogenic properties, somewhat similar to Ginseng and apparently help the body recover from exertion and stress. They are also said to improve learning and memory. The leaves are also edible and were once used to treat wounds and burns.

Silene vulgaris / Bladder Campion

Syn *S. cucubalus*

Native perennial *Caryophyllaceae*

This species is quite common in most of Britain, in fields, roadsides and waste places.

Greens: The only edible parts of the Bladder Campion are the young spring shoots, gathered when only a few inches high. Unfortunately they can be difficult to identify so early in the year (look near the dead plants of last year). The shoots can be eaten raw, but are quite bitter due to their content of saponins. More often they are cooked as a potherb, for ten minutes or so.

Related species:

S. acaulis - Moss Campion

This species can be used as above, but is too pretty for casual use.

Silybum marianum / Milk Thistle

Introduced biennial *Asteraceae*

This species is widely naturalised in most of Britain, but it is not usually very common.

This biennial species is used in the same way as the *Cirsium* and *Carduus* species and is occasionally included in the latter genus.

Food: All parts of this wholesome and nutritious plant have been eaten, raw or cooked, like the other Thistles (see *Cirsium*). Beware of plants growing in chemically fertilized fields, as they can concentrate nitrates from the soil and become somewhat toxic.

Medicine: This was the most important Thistle for medicinal purposes. Traditionally it was thought to be beneficial for the liver and was used as a spring tonic to cleanse the blood and improve the appetite. It is also useful as a mild laxative and febrifuge (fever reducer).

The bruised leaves are a good poultice for wounds and skin sores.

Seed: It has recently been discovered that Milk Thistle really is beneficial to the liver. The seeds contain substances that protect the liver from toxins and help it to recover from damage. An extract of the seeds

has been used experimentally to treat poisoning by the deadly Death Cap fungus (*Amanita phalloides*) and also for hepatitis and cirrhosis of the liver. The seed tea has been used to treat nausea, motion sickness and allergies.

Stuffing: The downy seed can be used like that of Reedmace (*Typha)* for stuffing pillows and clothing.

Cultivation: This attractive plant has been cultivated as an ornamental, as a vegetable and for its medicinal properties. It attracts many beneficial insects and birds to the garden. Milk Thistle is easily grown from seed in most soil types and self-seeds readily.

Sinapis arvensis / Charlock

Syn *Brassica arvensis*

Native annual *Brassicaceae*

Charlock is a common weed of agricultural land throughout the British Isles. Also known as Field Mustard this species is closely related to Black Mustard (*Brassica nigra)* and is sometimes included in the same genus. This is a serious weed plant and before herbicides came along fields were sometimes abandoned because of it (the seed has been known to remain viable for up to 40 years).

Food: Charlock is a good potherb or salad plant while young and has occasionally been sold in markets.

The seed can be used as a condiment or sprouted like that of Mustard.

Garden uses: Charlock is useful as a fast growing green manure crop, but you must make sure it doesn't set seed and become a weed.

Sison amomum / Bastard Stone Parsley

Native perennial *Apiaceae*

This species can be found in hedges and waste places over most of central and southern England. The roots have been cooked and eaten like parsley. The seeds and leaves have been used for flavoring.

Sisymbrium officinale / Hedge Mustard

Native annual *Brassicaceae*

This species is common in hedges and waste places throughout most of Britain.

Food: The tender young leaves can be used in salads, or as a potherb (if they are bitter change the cooking water at least once).

The seed has been used as a condiment like Mustard.

Medicine: The leaves have been used to treat respiratory problems and as a diuretic.

Related species:

S. altissimum - Tall Hedge Mustard

Used as above.

Sium latifolium / Water Parsnip

Native perennial *Apiaceae*

This species most often found in marshes in the southeast of England, but it isn't very common.

The leaves have been used as a potherb, but the plant resembles the very dangerous Water Hemlock (*Cicuta maculata*). A dish of greens isn't worth risking your life for, so don't use it unless you are an expert at identification.

Another member of this genus is the Skirret (*S. sisarum*) which has been cultivated as a root vegetable, but that species is rarely found in the wild in Britain.

Smyrnium olustratum / Alexanders

Introduced biennial *Apiaceae*

Alexanders is native to the Mediterranea, but has made itself at home in Britain. It is most often found in coastal areas and can be quite common locally. The plant somewhat resembles Angelica in appearance, though you should always be careful to identify members of the *Apiaceae* positively because some are dangerously poisonous. It is quite hardy and may often stay green all winter in mild areas.

Food: Alexanders is quite strongly flavored and was once commonly cultivated for use as a flavoring under the name Black Lovage (which it somewhat resembles in taste). The biennial roots have been eaten like carrots or candied like Angelica.

Probably the best food from these plants is the expanding flower stem, gathered as it starts to swell in its second spring. Peel off the tough outer parts and use raw in salads (in moderation, it's quite strong) or cook in a change of water.

The flowers, young leaves and seedlings can be used in salads and as flavoring. The flower buds have been fried in tempura. The seeds have been used for flavoring. All parts have been used for tea.

Medicine: Alexanders is a good carminative and digestive aid.

Cultivation: This species is still occasionally cultivated as a food plant. It is quite easy to grow from the large seeds (though they may take a while to germinate). It is quite hardy and often stays green through the winter. If you have enough seed you might try growing it as microgreens or a cut and come again salad crop.

Related species:

S. perfoliatum - Perfoliate Alexanders

Introduced and not common. Used as above and actually superior to it.

Solanum nigrum / Black Nightshade

Native annual *Solanaceae*

Black Nightshade is found throughout England, though it gets rarer as you go north.

Caution: This species is somewhat confusing for the wild food forager. The berries have been eaten in pies and preserves and sometimes even raw; but some people insist they are poisonous and warn of the dire consequences of eating them. Even the leaves have been eaten in some places, though all green parts, including the unripe berries, are generally considered to be toxic, due to their content of solanine.

The answer to this confusing state of affairs is probably quite simple, the plant is sometimes edible and sometimes poisonous (okay it's not simple). There are number of possible reasons for this. It could be due to genetic variation in the plants of different areas, or the effects of different climates. The age or ripeness of the plants parts could also be a factor; young leaves contain much less toxin than older ones. Certain people, such as children with their smaller body weight, or people habitually eating certain plants, could be more or less sensitive to the toxins. It is also relevant that solanine is water-soluble, so the cooked berries are less toxic than raw ones.

Greens: In China the young shoots and leaves are used as a potherb and in soups. It is sometimes cultivated as a potherb there (as it is in Central America).

Fruit: It is probable you could eat small quantities of the cooked berries with no significant ill effects, though I don't recommend them (especially as they aren't even particularly pleasant). They are best when cooked in a change of water (to remove any bitterness) and sweetened with honey or sugar. They have been used like blueberries in pies and preserves.

Cultivation: Black Nightshade is a common weed of gardens and disturbed places, but it isn't usually a serious pest. It has been grown in gardens to attract Colorado potato beetles away from potatoes.

The plant breeder Luther Burbank apparently produced a fruit he called Wonderberry from this species and some related ones. This later became known as the Garden Huckleberry but never achieved much popularity, despite the fact that it fruits abundantly and is easy to grow. This is probably because it doesn't taste very good.

Solidago virgaurea / Goldenrod

Native perennial *Asteraceae*

This species is quite common in the north.

Drink: The tops are used for tea (best just before the flowers open).

Medicine: The flowering tops are a good wash for wounds.

Cultivation: It can be grown by seed or division in well-drained soil.

Related species:

S. canadensis - Canadian Goldenrod

This species is found as an escqpe. It can be used as above.

Sonchus species / Sow Thistle

Native annuals, biennials *Asteraceae*

These useful food plants are very common throughout Britain in fields, roadsides and waste places. They are more closely related to the lettuces (*Lactuca*) than to other thistles. They are nutritious (rich in vitamins A and C) and no species is poisonous, so any with tender foliage can be eaten. Be aware that when growing in chemically fertilized soils, they may accumulate toxic amounts of nitrates.

Leaves: The mildly flavored young leaves are a good potherb and can even be used for salads, if their spines are trimmed off. Native Americans rolled the leaves into small balls to crush the spines and then ate them. Older leaves are bitter, but have been eaten after cooking in several changes of water (I am not sure they have any nutrients left after this much cooking though). They can also be blanched to reduce their bitterness, by covering with a bucket for a few days to exclude light.

Flower stalk: The succulent flower stalks can be eaten until the flowers appear. Peel and eat raw or cooked.

Coffee substitute: The roots of some species can be used as a coffee substitute. Prepare like Chicory *Cichorium*).

Animal food: The seeds are important food for birds.

Weeds: All of these species have the potential to become weeds, but the worst is the Creeping Sow Thistle (*S. arvensis*). This species is a serious weed of gardens, fields and grazing land, as it spreads by means of creeping roots, as well as airborne seed.

Best species include:

S. oleraceus - Common Sow Thistle

*S. aspe*r - Spiny Leaved Sow Thistle

Sorbus aucuparia / Rowan

Native tree *Rosaceae*

This small tree actually prefers cool climates so is found throughout Britain, especially in northern hills. It is also very widely planted as an ornamental, so is common almost everywhere.

The berries are rich in vitamin C and a sugar called sorbitol (which was named after this genus), which is poorly absorbed by the body. This sugar (synthesized from sucrose) is used in large amounts by the food processing industry for diet and diabetic foods, 'sugar free' chewing gum, etc.

Fruit: Rowan berries are so common it's a shame they really aren't very good to eat. They tend to be mealy and bitter and may even be mildly toxic raw (the seed contains cyanide). The usual way to cook them is to boil for a few minutes, discard this first water and boil again in fresh water. They can then be used for jam or more adventurous recipes (preferably disguised with better tasting fruit). They have also been steeped in brandy or gin.

Wood: The wood is strong, hard and tough, but the trees are too small for it to have any commercial significance. It has been used for spinning wheels, mallet heads, turning and carving. It is quite good firewood also.

Animal food: The berries are widely eaten by animals in winter. They hang on the trees for a long time, but are not usually eaten until more palatable foods are gone. The seeds are bird sown, so are able to travel long distances.

Cultivation: This species is planted as an ornamental for its attractive foliage, spring flowers and red berries. Several improved cultivars have been produced in Russia (by breeder Ivan Michurin) which have superior fruit (though even those are often grown for making jelly).

If the ripe seed is sown in fall, it will probably take two or more years to germinate, so stratify for three months at 23°C and a further three months at 4°C. Unripe seed may germinate within a few months. The trees prefer rich moist soils and dislike dense shade. It coppices quite well.

Related species:

Sorbus aria - Whitebeam

This is not a very common tree. It is mostly found wild in the south, though often planted elsewhere as an ornamental.

The rather mealy and bland berries have been eaten when fully ripe. They have been used for preserves, dried and added to breads and fermented for making alcoholic drinks.

S. intermedia - Swedish Whitebeam

Though not native, it's widely planted as an ornamental. Used like Whitebeam.

S. latifolia - French Hales

This species is a hybrid of Wild Service Tree and Whitebeam. The ripe fruits are quite good and have been sold in markets.

S. torminalis - Wild Service Tree

This is one of the rarest native trees, occurring only in the south of England and Wales. The unripe fruits are bitter and unpleasant, but as they ripen they develop a prunelike flavour which some people develop a taste for. They were cooked and used in jams, liqueurs and beer.

Spergula arvensis / Corn Spurrey

Native annual *Caryophyllaceae*

Greens: This small weed of arable fields can be found throughout Britain (and much of the rest of the world). It is a very nutritious food plant and may be used as a potherb, salad or fermented like sauerkraut.

Seed: If you can gather enough the nutritious seed can be ground to flour for baking etc. It has also been suggested as a possible oilseed crop.

Animal food: The plant makes fine forage for livestock and has been planted, or encouraged, for this.

Cultivation: Corn Spurrey is easily grown from seed in average soil. It has occasionally been planted as a fast growing forage crop, but not often, as it can become a persistent weed.

Spergularia marina / Lesser Sea Spurrey

Coasts, saline soils *Caryophyllaceae*

This species is common in coastal areas around Britain.

Greens: The thick fleshy leaves of this maritime plant have been used as salad, potherb, pickle etc. In Iceland they were fermented like sauerkraut.

Cultivation: This species prefers light sandy soils (in the wild it usually grows on sand dunes) and can be grown from stem cuttings, seed or division.

Sphagnum cymbifolium / Sphagnum Moss

Native moss *Lichenes*

The *Sphagnum* species are common in wet boggy acid heaths throughout Britain. They are the most useful and commercially important of the mosses. They are significant because they are highly absorbent, holding up to twenty times their own weight in water (the moss would not make a good stuffing for lifejackets).

Caution: Before use as a wound dressing the moss must be sterilized by boiling, as the spores of a disease causing fungus (*Sporotrichum schenkii*) are often found in the plant.

Peat moss: Sphagnum Moss is now most important in the form of peat moss. This is formed in peat bogs, where the unique combination of high acidity and a lack of oxygen (they are waterlogged all the time), inhibits decay causing organisms. When the mosses die in a peat bog they don't rot, but instead accumulate to form thick deposits of organic matter. Even animal matter doesn't rot in these bogs and peat cutters have found a number of well-preserved human corpses, at first thought to be murder victims, but subsequently found to be up to 2000 years old. These bodies have given archaeologists fascinating insights into how humans lived in the past.

Wound Dressing: Pads of sterilized sphagnum moss were once commonly used as an absorbent wound dressing. It's said that an ounce of moss will absorb an ounce of blood. During World War One a minor industry grew up in several European countries, whereby volunteers gathered and processed the moss for military use. It was sterilized by boiling and then dried, shredded and sewn into pads (often it was soaked in antiseptic before use). Britain alone was processing a million pounds of moss a month by the time the war ended. Happily, the end of the war saw a drastic decline in the demand for blood absorbing materials. The moss worked better than anything else that was available, but without volunteer labor for gathering it wasn't economical for use in peacetime.

Fuel: Dried peat moss was once widely used as fuel in northern areas, where trees are scarce. It is actually better than many types of wood, containing about 5000 Btu per pound. It was cut in winter when there was little farm work to be done and so free time was available. It was left in stacks to dry out for a year and then burned the following winter.

Peat moss is still used as a source of energy and quite a few countries have peat fired electric power stations (they are said to be cleaner than coal fired stations). Another way to get energy from the plants is to ferment them to produce alcohol or methane gas. This has been done experimentally, but never on a large scale.

Of course you could well argue that peat is too valuable as a unique habitat and carbon sink for it to be consumed on such a massive industrial scale as this. Many of Britains peat bogs have already been destroyed to supply gardeners with peat

Building construction: Another unlikely use for these plants is in building houses. The idea of a tiny moss being made into houses sounds ridiculous, but the same blocks of peat used for fuel also make fine building blocks. The resulting houses are quite similar to the sod houses built by the first European settlers on the American plains.

Peat / cement: A new use of peat is for making concrete blocks for building construction. The absorbent fibers readily absorb cement to produce stiff, light, easily cut blocks with a high insulating value. Gardeners use a mixture of cement, sand and peat moss (known as hypertufa) to make artificial stone planting containers.

Absorbent: The fibers have been used in industry to absorb spilled oil, chemicals and other materials.

Nappies: The moss has been used to fill disposable nappies and menstrual pads. These can be completely biodegradable and may be disposed of into the soil after use, with their fertility no doubt enhanced.

Other uses: The whole plants were once commonly used as packing material for fragile objects and for stuffing mattresses. The fibers have been used for making paper and cloth.

Horticultural uses: Peat moss is best known as a soil amendment. It is added to clay soils to improve porosity and drainage. In sandy soil the absorbent fibers increase water retention. It is quite acid and when used in quantity a liming agent should be added to balance the pH.

Peat moss is widely used in potting and seed starting mixes (with sand, compost, vermiculite, leaf mold, etc). It is valued for seed starting because it holds a lot of water, is free of weed seeds, sterile and slightly antiseptic (which is said to deter damping off disease). Newly sown seeds are sometimes covered with a thin layer of moss for this reason. Horticulturists have used the fresh moss for similar purposes, but it is more expensive than peat moss.

Peat moss is widely used to pack plants for shipment. It is ideally suited for this, because it not only protects the plants from impact, but also holds water which keeps them from drying out.

Cultivation: In the West we generally use only the dead plants in our gardens, but in Japan the mosses are widely cultivated for their beauty. They can add a whole new dimension to gardening on moist shady sites. The plants can be propagated by transplanting small clumps of moss in a chessboard fashion. If they are kept moist and like the growing conditions, they soon fill in the bare spots.

Stachys palustris / Marsh Woundwort

Native perennial *Lamiaceae*

This species is quite common in wet soils throughout Britain.

Roots: Woundwort is a member of the Mint family, but is important for its edible tuberous roots, rather than as flavoring. These tubers are gathered after the plants go dormant in late fall or winter, which presents the problem of finding and identifying the dead plants. They are a valuable winter food and can be eaten raw, boiled, fried in tempura or pickled.

Greens: The new leaf shoots can be eaten raw, or cooked, in spring.

Medicine: A wash, or poultice, of the leaves has long been used as a wound herb to stop bleeding. This explains the common name.

Smoke: The leaves of the related Betony (*S. officinalis*) have been added to herbal smoking mixtures.

Cultivation: In China and France the related *S. sieboldii* is cultivated as a root vegetable and other species could be. They are grown from seed or tubers in light, moist soil. Be careful where you put them, as they can become weeds. Keep them confined and try not to spread the tubers around when you harvest.

Stellaria media / Chickweed

Native annual *Caryophyllaceae*

Chickweed is common throughout the British Isles. It has been suggested that Chickweed may be the commonest plant on earth, as it has spread far from its native Eurasia and is now found around the world. The plants delicate appearance is deceiving, as this is one of the hardiest of all annuals. It can survive temperatures as low as -12˚ C and in chilly 4 degrees C weather will produce a luxuriant green carpet. The plant is actually happiest in such cool temperatures, as the cold suppresses larger plants that would otherwise out-compete them. It usually disappears altogether in hot weather. Another factor in the plants success is its fast growth; it can grow from seed and produce seed of its own, in as little as thirty days.

Greens: Chickweed is highly regarded as a source of wild greens. It is common, easily identified, mildly flavored, rich in vitamin C and in mild climates will provide food right through the winter. The tender growing tips can be used as a base for a fine salad, simply add pungent, sour and aromatic leaves to give more flavor. They are also an attractive garnish.

The young tops can also be used as a potherb, though you will need to gather a lot, as it shrinks when cooked. The tops of older plants can also be used as a potherb, though you may need to discard the tougher stems.

The dried, powdered plants have been added to baked goods, to increase their nutritional value.

Seed: Chickweed seed can be sprouted like Alfalfa, or ground to meal for baking. You might be able to gather the seed by uprooting the plants and leaving them to dry out as for Purslane (see *Portulaca*).

Medicine: The leaves were once commonly used as a poultice, or ointment, for burns and to stop bleeding. The potherb is a mild laxative and has been eaten as a spring tonic to purify the blood.

Animal food: As the common name suggests the plant is an important food for birds and was once fed to domestic chickens.

Cultivation: You probably have the plant growing near you right now. In cold weather is will be one of the last green growing plants. Chickweed could easily be grown from seed, but there seems little point.

Related species:

Stellaria graminea - Lesser Stitchort

The tender young shoots are good raw or cooked.

Suaeda species / Sea Blite

Native annual or perennial Ch*enopodiaceae*

These species are common in coastal areas around Britain.

Leaves: The Sea Blites are halophytes, which means they can tolerate soils containing lots of salt. Like many halophytes they produce fleshy leaves that can be used sparingly in salads. They can also be used as a potherb, but must be cooked in at least one change of water to reduce their salinity. They can also be added to soups, blander greens, or other foods, as a combination vegetable and seasoning.

Seed: The seed is edible, though it would be hard to get enough to be worthwhile. It could be used it like that of the related Lambs Quarters (*Chenopodium*).

Ash: The plants have been burned and the ash used like that of Glasswort (*Salicornia*) for making glass and soap.

Species include:

S. maritima – Sea Blite

S. fruticosa – Shrubby Sea Blite

Symphytum officinale / Comfrey

Native perennial *Boraginaceae*

Comfrey is native to Britain and is quite common in England and Wales and up into southern Scotland. It is also widely cultivated and is often found as an escape. This is fortunate because Comfrey is something of a wonder plant.

Caution: Though Comfrey has been eaten as a potherb in the past, there is some controversy as to whether it is really safe to eat. It has been found that the leaves and roots contain toxic pyrrolidizine alkaloids. Some plants containing these substances are dangerously toxic and are often responsible for poisoning domestic livestock.

There are no records of Comfrey causing poisoning in humans or animals. On the contrary it is generally considered to be a very beneficial forage plant and has even been fed to racehorses and show animals, to bring them into peak condition. Proponents of the plant claim that the evidence of toxicity is almost purely from a laboratory, when extracts were injected and that it is perfectly safe to eat in moderation.

I will remain on the fence on the question of toxicity. Even though I talk about eating Comfrey, this is not a recommendation for you to do so.

Nutrients: Comfrey is one of the world's most efficient producers of plant protein, yielding up to six times as much per acre as Soybean. It is one of the few vegetable sources of vitamin B12 and is also rich in vitamins A and C and calcium, phosphorus and potassium.

Green drink: I most often use Comfrey leaves in a green drink, which is a form of smoothie. I don't have a specific recipe, because it all depends upon what's available. Here is my basic method:

Fruit juice (I like Orange, but some people use raw Pineapple juice, as its enzymes may help to digest the proteins in the drink. You could also use soymilk).

Green leaves (Comfrey, Dandelion, Violet, Gotu Kola, Strawberry or whatever you have). Banana (to sweeten. You might try *Stevia*).

Seeds (Sunflower, Pumpkin, Sesame, Evening Primrose, Flax, Chia).

Antioxidant berries (Blueberry, Wolfberry).

Other ingredients (Flaxseed oil, Elderberries, Kelp, Brewers yeast, Bee pollen, lecithin).

Put the Sunflower seeds in the blender with a small amount of fruit juice and puree them to a cream. Add more fruit juice, the leaves and everything else and blend until smooth. The whole thing tastes surprisingly good and is a great way to take in a lot of extra nutrients.

Greens: The leaves are too rough to be good raw, but make a fair potherb and were once popular fried in tempura batter. Young leaves are best, but older ones can be used. The dried leaves have been ground to powder, for use as a food supplement.

Drinks: The dried leaves have been used for tea, but are better mixed with other herbs, rather than used alone.

Medicine: The herbalists of old considered Comfrey a panacea, of help for almost everything and it is still considered a very special medicinal plant. The growing parts contain a substance called allantoin that stimulates cell growth. This makes Comfrey one of the best plants to hasten the healing of burns, wounds, ulcers, sprains, bruises and infected sores. It is also used to stop bleeding. The leaves or roots can be used as a poultice, or mixed with oil and beeswax to make a wonderful salve. Be sure the plant parts are perfectly clean, as dirty material on a wound could lead to infections such as tetanus.

I have read that the mashed root was once used as a poultice for broken bones and that it will set hard like a cast. I don't know how it was used. The dried powdered root was eaten to hasten the healing of broken bones.

Healing Salve:

2 ounces of Comfrey leaves

1 pint of olive oil

1½ ounces of beeswax

½ teaspoon benzoin (a preservative)

Gently simmer the Comfrey leaves in the oil in a covered pot for about an hour. Make sure the oil doesn't overheat, otherwise it may catch fire (for this reason I advise you to do this outside). Overheating the oil may also impair the healing qualities of the salve. The next step is to add the beeswax and benzoin and stir thoroughly. Take out a spoonful of the mix and allow to cool, so you can check its consistency. If it is too thick add more oil, if too thin add more wax. Finally pour it into wide mouth jars and allow to cool fully. If stored in a cool place it may stay good for several years.

This same basic recipe can be used with many other healing plants, such as Plantain (*Plantago*), Yarrow (A*chillea*), Chickweed (*Stellaria*) and St Johns Wort (*Hypericum*). Those plants can also be added to this recipe.

Animal food: Comfrey has been cultivated for use as animal feed and then returned to the land in the form of manure.

Cosmetics: The juice of the plant is said to be beneficial for the hair and skin.

Fuel: Comfrey may produce up to 50 tons of green matter per acre in a season, so it has been suggested as a possible source of vegetation for methane production. This would also give nitrogen rich fertilizer as a byproduct.

Cultivation: Comfrey is very easy to propagate vegetatively by means of root cuttings. They grow whatever you do. You could start with a single root cutting and within two or three years you would have more Comfrey than you could possibly use. The plants are said to prefer rich moist soil, though I have seen them growing on dry mine spoil heaps that couldn't really be called soil at all. They will grow in part shade, but do much better in full sun. Established plants are rarely bothered by pests or disease (except for Comfrey Rust in some areas).

Horticultural uses: The plants are quite attractive and several species have been used as ornamentals. A number of superior cultivars exist, but they are hard to obtain. Fortunately even wild forms are very productive.

Eradication: One problem with Comfrey is that it is very persistent and can be hard to eradicate once established. It doesn't spread aggressively, but any fragment of root that is spread around while digging will usually root. If it becomes a pest, it can be eliminated by solarization, or a mulch of cardboard, black plastic or carpet. You might also try repeated cutting to exhaust the roots, but you will probably get exhausted before the plant does.

Fertilizer: Of all its many uses, Comfrey is perhaps most valuable as a fertilizer and soil builder (this is certainly its safest use). Its vigorous root system breaks up compacted soil and mines the subsoil for nutrients. Poor soils can be improved by planting Comfrey on them (perhaps with Clover or other nitrogen fixing herbs).

The high nitrogen content of the leaves makes them an excellent green manure and compost material. They can also be used as the nitrogen component of compost piles. For maximum productivity the leaves should be cut regularly.

A great way to use Comfrey as fertilizer is to make a liquid foliar feed. Just fill a bucket with as many leaves as it will hold, top it up with water, cover and leave to ferment for 2 to 3 days. Then strain out the remaining fibers, dilute with an equal amount of water and apply with a watering can. Like any anaerobic fermentation it smells horrible, but for a serious gardener that's a small price to pay.

Related species:

S. asperum - Rough Comfrey

S. x uplandicum - Russian Comfrey

These cultivated species may be found as escapes. They can be used in the same ways. The last species is more common. and I have read that it contains less of the toxic alkaloids, but I can't vouch for this.

Tanacetum vulgare / Tansy

Native perennial *Asteraceae*

This species is common on roadsides and waste ground throughout Britain.

Caution: Tansy contains an irritating oil known as tanacetone and in large amounts causes convulsions, gastritis and sometimes death. Many people don't even consider Tansy safe for external use!

Flavoring: Tansy was once widely used as a culinary herb, which is rather surprising as the taste is bitter, unpleasant and quite toxic if used in any quantity! I suppose if one took the very youngest and mildest leaves available and added a tiny pinch to egg dishes or salads, you might get to like the aromatic flavor (perhaps). It can also be used to make an unpleasant and somewhat toxic tea and was used like Hops to flavor beer.

Medicine: A tea of Tansy leaves can be used externally to kill parasites. It was once commonly used for internal parasites, but such internal use should probably be avoided.

Tansy was once a popular spring tonic, to cleanse the blood and rejuvenate the body (its strange how awful tasting plants are often considered 'good for you').

Tansy oil stimulates smooth muscle (such as the uterus) and the tea has been drunk in small amounts to promote menstruation and in large amounts as an abortifacient (sometimes with doubly fatal results).

Insect repellant: This toxic plant is disliked by most insects and has been used as a repellant. It was often planted around houses to stop ants and other insects from entering and was even put in coffins to repel worms!

Other uses: Tansy has also been used as a strewing herb, for its pungent scent and insect repellant qualities. The dried flower heads are often used in dried arrangements.

Cultivation: This vigorous perennial is very attractive when blooming luxuriantly in full sun and is very little bothered by pests. Its main disadvantage is its invasiveness and because of this it is often planted in containers. It may be grown from seed or by division in most soil types and will take full sun or part shade. In some areas it is illegal to grow Tansy, because it escapes readily and can become a serious weed. Wherever you grow it, you should take care to ensure it doesn't escape and become a pest.

Garden uses: The foliage of the plant is rich in potassium and makes a good addition to compost piles etc. Tansy is a good companion to most plants for its insect repellant qualities and was once planted around fruit trees, or with Brassica vegetables. A tea of the plant has been used as a garden insect repellant.

Taraxacum officinale / Dandelion

Native perennial *Asteraceae*

Dandelion is common almost everywhere in the British Isles. Most people are familiar with it, but the acquaintance is usually pretty superficial, most people wouldn't dream that the Dandelion is one of the most nutritious of green plant foods. It also has numerous other uses, is an important wildlife food and is beautiful as well.

This highly efficient plant has spread to all temperate areas of the world. The wind borne seed can travel huge distances to colonize disturbed ground, such as gardens, roadsides, cultivated fields and waste ground. The seed has no dormancy period so can germinate immediately and a plant can produce seed of its own within three months of germination. This might not sound very impressive compared to some annuals, but Dandelion is a persistent perennial and doesn't really need to produce seed at all. Its deep taproot enables it to survive on poor soil and through drought. As any gardener knows it also makes the plant hard to remove, as any piece of root left in the ground can quickly become a new plant. Careless weeding can be a form of propagation, rather than eradication.

Nutrients: Dandelion leaves are much more nutritious than most common vegetables. They contain up to 14,000 i.u. of vitamin A per hundred grams, along with lots of Vitamin C, B vitamins and many minerals, including calcium, chlorine, copper, iron, phosphorus, magnesium, silicon and sulfur. They are one of the richest plant sources of potassium.

Greens: Considering its great food value, it's a shame that for most of the year the Dandelion is too bitter for most palates and is only really good in cold weather. It is usually eaten in spring, from the time it first appears above ground, until the flowers stalks appear. It may also be good for a while in late autumn. In milder areas it may remain green and palatable all winter.

The young leaves can be used in salads, or cooked for 5 to 10 minutes as a potherb. If they are too bitter, change the cooking water at least once. Some people blanch the leaves by covering them with a box for a few days, as this makes them less bitter and more tender (it also reduces their vitamin content).

Crown: The crown of the plant is also edible in early spring. Cut the green top off of the root, just far enough down so it holds together and then cut off the leaves. These are naturally partly blanched and are often still palatable after the green leaves have become too bitter to eat. They can be eaten raw, boiled, or fried in tempura batter. If they are too bitter try cooking them in a change of water.

Winter greens: The roots have been forced indoors (no I don't mean they were forcibly made to go indoors), as a source of winter greens. See Chicory (*Cichorium*), for more on the forcing process.

Flower buds: You can find these huddled down inside the leaf rosette, soon after the leaves appear, waiting for warmer weather to make their appearance. These make good salad material, or can be boiled or steamed.

Root: The dormant roots have been eaten like Salsify (*Tragopogon).*

Green drink: I often add a few Dandelion leaves to a green blender drink. They can be used for this at any time of year. Their bitterness usually isn't noticeable and they add a lot of nutrients. See (*Symphytum*) for more on these

Coffee: The roasted roots have been used like Chicory as a coffee extender or substitute. Done properly this is aromatic and quite good.

Medicine: Dandelion is mainly of value as a nutritive tonic. The chlorophyll, enzymes and high vitamin and mineral content of the leaves make them one of the best spring tonics. These were thought to purify the blood and aid in the neutralization and elimination of toxins accumulated over the winter. They are also a powerful diuretic, as suggested by the old common names PissABed and Wet Weed.

The very high vitamin A content of the leaves makes them a potent cancer preventive if eaten regularly. The leaves, or their extracted juice, have been used to treat anemia and rebuild the teeth and bones. They have also been used as a poultice for wounds and skin ailments.

The roots have been used to treat jaundice, hepatitis, gallstones, diabetes and hypoglycemia.

Rubber: All *Taraxacum* species contain large amounts of rubber latex and one species (*T. koksayghiz*) was cultivated in the Soviet Union during World War Two as a source of rubber. It provided that country with 80% of the rubber used during that time.

Animal food: Though an introduced species, the Dandelion is an important source of nectar and pollen for many native insects. Many birds eat the seed. Both domestic and wild animals eat the foliage.

Cultivation: If Dandelions don't grow in your garden they are worth cultivating, as they provide a reliable source of greens every spring. Improved varieties are available, with larger more succulent leaves, but which still retain much of the vigor and independence of wild plants. They are easily grown from seed or root division, in most soil types. Be warned they will self- seed freely, maybe more freely than you might like.

Garden uses: Dandelion is often a hated weed and huge quantities of toxic chemicals are used annually to eliminate it from lawns. At the same time it is cultivated in some areas and sold in markets as a salad herb. It is equal to chicory or endive in flavor, yet easier to grow.

The plant is generally beneficial in the garden. It attracts bees and predatory insects, its deep roots break up compacted soil and bring nutrients to the surface. The whole plants are fine compost material.

I think it is time for plant breeders to create some ornamental Dandelions. They are certainly pretty enough.

Taxus baccata / Yew

Native tree *Taxaceae*

The Yew It is our longest lived native tree, sometimes reaching 1000 years of age. It is widespread in the wild throughout England and Wales, but it is never very common. To many people it is probably more familiar as a landscape plant than in the wild. It is particularly associated with churchyards, an association widely thought to date back to pre-Christian religions.

Caution: Almost all parts of the Yew are toxic. They contain the dangerously heart depressing alkaloid taxine and have caused deaths in both livestock and humans. Interestingly deer can eat it with impunity and actually seek it out.

Food: The only exception to the plants toxicity is the sweet red flesh that surrounds the seed, (the seed itself is poisonous). This is usually eaten out of hand as a snack, but has occasionally been used to make preserves.

Medicine: Taxol from the bark of the American Pacific Yew (*T. brevifolia)* has been found to be effective in treating breast and ovarian cancers (and perhaps others) and is now widely prescribed for this. This has resulted in considerable demand for the foliage by pharmaceutical companies, resulting in increased gathering from the wild. Fortunately this substance has now been found in the leaves of other *Taxus* species, along with substances that can be converted into taxol. It is now being cultivated to meet the demand.

Wood: Yews are conifers and so botanically classified as softwoods, though the wood of these slow growing plants is certainly not soft. It is hard, heavy and very elastic and was once prized for making bows. It was the favored wood for the longbows of the English archers who dominated medieval European warfare until the perfection of firearms. Native Americans used it for paddles, harpoons and spears, as well as bows.

Fuel: Yew is excellent firewood, but slow growing and uncommon, so it is rarely used.

Insecticide: The leaves are toxic to insects and a decoction has been used as a dip to kill external parasites on livestock.

Cultivation: Yews can be grown from seed, planted as soon as it is ripe, or from hardwood cuttings. They prefer cool moist conditions, with some shade.

These evergreen trees are widely planted as ornamentals and cultivars have been developed for every purpose, from large upright trees to prostrate groundcovers. They are dioecious, so if you want berries you will need a female tree. Yew is also a very good hedge or windbreak plant.

Yews are now cultivated as a source of medical drugs. They can be coppiced, which allows them to be cut at regular intervals. See Hazel (*Corylus*) for more on coppicing.

Teucrium scorodonia / Wood Germander

Native perennial *Lamiaceae*

This species is common throughout Britain. The bitter leaves have been used like Hops for brewing beer.

Thlaspi arvense / Pennycress

Native annual *Brassicaceae*

This species is common in the south and east in fields and waste ground.

Food: The tender young parts can be eaten raw or cooked in spring, but soon become bitter. Later the seeds can be used like those of Mustard (Brassica).

Decoration: The dried seed pods have been used in ornamental floral decorations.

Cultivation: Pennycress is occasionally cultivated as a salad herb. It is easily grown from seed in good garden soil, but watch it doesn't become a pest.

Thymus praecox / Wild Thyme

Native perennial *Lamiaceae*

This species is quite common on alkaline soils in the north and west. It can be used like Garden Thyme (*T.*vulgaris) as a culinary herb or tea, though it isn't as good.

Medicine: The plant contains the antiseptic thymol and has been used as a wound herb. It is also fungicidal and was used for skin diseases such as athlete's foot. Thyme tea is a carminative, digestive, expectorant and tonic.

Animal food: Fairies and bees are fond of Thyme.

Cultivation: The plant can be grown from seed, division or cuttings, in well-drained sunny soil. It makes a good ground cover.

Related species:

T. pulegioides - Giant Thyme

T. serpyllum- Wild Thyme

Used as above.

Tilia cordata / Small Leaved Lime, Linden

Native trees *Tiliaceae*

This species is locally common on alkaline soils, ecpesially in old woodland. It is also quite commonly planted in parks and gardens.

Greens: The new leaves are tender and mild flavored and make a great base for a spring salad (also good in sandwiches). They can also be used as a potherb. The forest gardener Martin Crawford says they are one of his most important forest garden salad ingredients. New growth can be used any time in the summer, so long as it is tender and mildly flavored.

Flowers: The flower buds and flowers can be eaten in salads, or fried in tempura batter. More importantly they were used to make tea. This was once one of the most popular herbal teas, but seems to have declined in popularity of late

Medicine: The flower tea is considered to be a mild sedative and tranquilizer and makes a good bedtime drink. It was once prescribed for coughs and sore throats and to settle the digestive system.

The mucilaginous inner bark has been used as a poultice for skin ailments and burns. Native Americans used it to bandage wounds.

Honey: These are important nectar producing plants. The trees attract so many bees while blooming that it is said you can find them by the buzzing. Connoisseurs consider the honey to be some of the best. Bees attracted to trees in your yard will stay and pollinate other plants.

Cosmetics: The flowers have been added to bathwater as a skin treatment and an aid to relaxation. The easiest way to do this is to make a tea and pour it into the bath. This was also used to wash hair, babies and babies hair.

Wood: The wood is light, soft, evenly grained and doesn't split easily. These qualities make it a favorite of woodcarvers, turners and cabinetmakers. It is also prized by luthiers (guitar makers) as it is acoustically dead. The wood has also been used for pulpwood. It is poor firewood, giving only about 14 million Btu per cord.

Fiber: The inner bark (bast) fibres arevery strong and can be used for cord, rope and sandals. The American Basswood (*T. americana* - so called from Bast-wood) were an important source of fiber for Native Americans. In Britain this fibre was a common product of Linden coppice. It was peeled off the poles and then the useful inner bark was separated from the outer part. It was boiled in wood ashes to separate the fibers. In Russia it has been used to make paper and cloth. A narrow strip of inner bark can be used as emergency cord if nothing else is available. Strips of whole bark have been used as roof shingles and wide sheets were used for covering wigwams (which are completely different from teepees).

Tanning: The tannin rich bark has been used for tanning leather.

Cultivation: Lime likes rich moist soil and can be propagated from layering, though it is slow to root. Seed can also be used, but it can take several years to germinate. You could also try and find some natural seedlings, that won't survive where they have grown and transplant them.

Horticultural uses: Lime is an attractive shade tree, but it has one drawback; aphids feeding on the leaves drop copious amounts of honeydew. This can make a mess underneath the trees, coating cars, furniture, windows and other surfaces. It has even been known to make road surfaces slippery. One would imagine that so many sap-sucking insects must be detrimental to the trees, but they are actually beneficial in an unlikely way. The honeydew apparently stimulates nitrogen fixing bacteria in the soil and much of the nitrogen they fix eventually finds its way into the plants. This illustrates very well how our immediate assumptions and prejudices about insects can be quite wrong.

This species suckers freely after being cut down and has been coppiced for poles, bast fiber, tool handles, tan bark and firewood. It is cut on a 10 to 25 year rotation. Martin Crawford coppices Linden as a source of sald greens.

Related species:

Tilia x europaea - Common Lime

Syn T. X vulgaris

T. platyphyllos - Large Leaved Lime

Used as above.

Tragopogon pratensis / Meadow Salsify

Native biennial *Asteraceae*

This species is common in England on well-drained soils.

Roots: The roots of these biennials can be eaten while dormant, from the end of their first year of growth, until they start growing in the spring of their second year. The rosettes of grasslike leaves are quite inconspicuous at this time, so you must look for the old second year plants. Close by you will find the new rosettes.

The roots are scraped, or peeled and eaten raw or cooked like Carrot. If they are bitter try cooking them in at least one change of water.

Greens: In the spring of their second year, the new leaves and crowns can be used like those of Dandelion (*Taraxacum*), raw or cooked. The flower buds have been steamed or fried in tempura batter.

Drink: The roasted root is used like Chicory (*Cichorium*) as a coffee substitute.

Medicine: The leaves have been used to treat wounds.

Ornament: The attractive, downy seed heads resemble those of the related Dandelion. They have been sprayed with hair spray to hold them together and used in dried flower arrangements.

Cultivation: These species are easily grown from seed in any good garden soil and often self-seed.

Related species:

Tragopogon dubius - Yellow Goatsbeard

T. Porrifolius - Salsify

The latter species is cultivated for its roots and is often found as an escape. The wild roots are smaller and less succulent than cultivated ones, but are used in the same ways.

Trifolium pratense / Red Clover

Native throughout *Fabaceae*

Red Clover is common in fields and waste places throughout the British Isles.

Like many members of the *Fabaceae* it contains nitrogen fixing bacteria in nodules on its roots and enriches the soil it grows in. The name Clover is derived from the Latin clava meaning club, which explains why the playing card club symbol is a clover.

Greens: Clover is common and nutritious, but not very good, so I would classify it as a "survival food". Native Americans in California (and elsewhere) thought differently and ate the young spring leaves in large quantities. The first white explorers were astonished to see them grazing in the fields like deer.

The young spring leaves can be eaten raw, but are more easily digested if cooked for 5 to10 minutes. They are better when mixed with other greens. I sometimes add a few leaves to green blender drinks (see Comfrey - *Symphytum*).

Bloat is a common problem for livestock (and humans) when eating a lot of clover. It is caused when digestive gases combine with substances in the plant to form a foam. Native Americans sometimes dipped the leaves in salt water to prevent this.

Flowers: The newly opened individual flowers have been added to salads.

Seeds: The cleaned seed can be sprouted for salad greens like Alfalfa. It has also been ground to flour and mixed with wheat flour for baking bread.

Drink: The nectar rich blossoms have a faintly sweet flavor and are used (fresh or dried) for make tea.

Medicine: Clover blossom tea is thought to stimulate the liver and bladder and is sometimes used as a diuretic. It is also a carminative and possibly a mild sedative.

The plant was used externally for skin diseases and to treat some forms of cancer (it may have some tumor-inhibiting properties).

Animal food: Red Clover was once the most important commercial forage crop in North America and is still very important. However the protein rich leaves can cause digestive problems, so must be used in moderation. They also contain minute amounts of estrogen and have caused animals to abort. Clovers are an important source of nectar for bees.

Nitrogen Fertilizer: In the 16th and 17th centuries the use of nitrogen fixing clovers in crop rotation caused a revolution in European agriculture and increased production enormously. They were used to return nitrogen to the soil, to replace that taken by growing crops. An acre planted in clover may receive 100 to 500 pounds of nitrogen annually, which is the equivalent of up to ten tons of manure.

A Japanese farmer named Masanobu Fukuoka claims to have farmed the same piece of land for over forty years, obtaining two crops of grain annually, with only the nitrogen obtained from interplanted crops of Clover.

Clovers are excellent for improving the soil, either as a green manure, or cover crop and a large number of species and varieties are available. They also suppress weeds, encourage worms and give nectar for bees.

Lawns: If you can live without a 100% pure grass lawn, Red Clover is an excellent lawn plant. It fixes its own nitrogen, so feeds itself and its neighbors and stays green long after grass has turned brown. The clippings can be used for green manure, mulch or compost.

Clover can be combined with herbs such as Chamomile, Thyme and Yarrow, to make an herbal lawn.

Cultivation: This species is easily grown from seed and does well in average garden soils. It can become a weed.

Related species:

T. repens - White Clover

The thin rhizomes were gathered while dormant from fall to early spring. They were usually boiled or steamed and are said to taste quite good (I'm not convinced though).

Triglochin maritima / Arrowgrass

Native *Juncaginaceae*

This species is found in seas all around the British Isles. It is also widely distributed around the globe. Despite the name it is a member of the Rush family and not a grass. The mature green parts of the plant are toxic raw, as they contain cyanogenic glycosides and quite often poison livestock.

Leaf base: The young white leaf bases have been cooked and eaten in spring.

Seed: The seeds can be parched and ground to flour for porridge and baking. They can also be roasted as a coffee substitute.

Related species:

T. palustris - Marsh Arrowgrass

This species is found in freshwater marshes and is often quite common. It has been used as above.

Tussilago farfara / Coltsfoot

Northeast *Asteraceae*

Coltsfoot is a common spring flower throughout the British Isles. The Dandelion-like flowers are among the first flowers of spring, appearing even before their own leaves.

Greens: The young leaves and flower stalks are edible when cooked as a potherb, but are not very good and contain potentially toxic pyrrolizidine alkaloids.

Roots: The roots have been boiled as a vegetable. They have also been candied by boiling them in sugar.

Smoking mixture: In Europe the dried leaves were once widely smoked as a tobacco substitute. They formed the basis of many herbal smoking mixtures, to which were added such herbs as Thyme, Mullein, Buckbean, Rosemary and Bearberry. The smoke of these mixtures is wonderfully fragrant, but I imagine it is still pretty harmful to the lungs.

Salt substitute: Native Americans rolled the dried leaves into balls, dried them in the sun and then toasted them on rocks around the fire (try using a skillet). The resulting ash was crushed to powder for use as a salt substitute. An even better product was made by dissolving the ash in water and then straining and evaporating it.

Medicine: The generic name means cough dispeller and was given because the plant was once used as an expectorant and to soothe mucus membranes in all kinds of respiratory ailments. The root may be used as tea, candied, or made into syrup. The dried leaves were once commonly smoked to relieve asthma.

Cultivation: Coltsfoot was originally introduced as a medicinal herb, but soon escaped from cultivation. It is now a common weed in many areas. It can be grown from seed or division, in almost any soil. It can be eradicated by improving the soil, which gives more vigorous competitors an edge.

Typha latifolia / Common Reedmace

Native aquatic perennials *Typhaceae*

This species is common in ponds, marshes, ditches and other wet places throughout Britain.

The Reedmace is one of my favorite useful wild plants. It has all the necessary attributes for a good wild food, it is common, easily identified, widely available, nutritious, tasty, available year round, isnn't harmed by harvesting (indeed thinning may be beneficial) and it can't be confused with any poisonous plants.

Caution: Don't eat raw Reedmaces if there is any danger of contamination from polluted water. For example the plants often stretch for miles in poorly drained roadside ditches, but may be contaminated by car exhaust emissions.

Shoots: In winter the dormant roots develop clawlike shoots that will develop into new stems in the coming year. Snap these from the rhizome, peel and eat raw in salads, boil for ten minutes as a vegetable, or add to soups and stews.

In late winter and early spring these shoots start to elongate and can be eaten until they are about two feet long. Longer shoots may be too acrid to be palatable, as may the new shoots that emerge later in the year. These shoots break from the root quite easily. Peel off the tough outer leaves, to leave the white tender core, which can be eaten raw in salads, boiled for 5 to 10 minutes, steamed, stir fried (with Wild Onions, Watercress, Arrowhead), or added to soups (good with miso and seaweed).

Flowers: My favorite Reedmace food is the immature flower spike, which appears over a few weeks in early summer (May June). It's gathered while still tightly wrapped in the sheath, boiled for 5 to 10 minutes and eaten like sweet corn, which it somewhat resembles. The edible part can also be scraped from the wiry core and cooked as a vegetable, or added to soup.

Pollen: When the flowers mature in June and July they produce an abundance of edible pollen. Gather it by bending the flower spike over a bag and gently rubbing off the pollen. Sift carefully to remove insects and any debris and its ready to use. Pollen might seem like a pretty insubstantial food, but Native Americans gathered it by the basketful. If dried thoroughly the pollen may stay wholesome for 12 months.

This fine powder can be mixed with an equal amount of wheat or corn flour, to add flavor and nutrients to bread, cakes, pancakes and muffins. Native Americans made cakes of pollen and water, wrapped them in their own leaves and baked them in the coals of a fire. It can also be used for thickening soup, or made into porridge (boil two parts of pollen with one of wheat flour). It colors everything bright yellow.

Seed: Native Americans also ate the tiny seeds, after burning them to remove the down. They sprinkled water on the piles of fluffy seeds, so the resulting fire wouldn't be so fierce as to destroy the seed. The cleaned seed was used to make a nutritious porridge.

Roots: The fleshy ropelike rhizomes provide the most substantial food. They can be an important survival food, as they are nutritious (they contain 20 to 40% starch), often abundant and are available year round. They are actually more nutritious in winter, when other foods are scarce, as they are full of stored starch at this time. The rhizomes can be eaten raw, boiled, or roasted in a fire (eat the starchy interior and discard the tough fibers).

Flour: To extract starch from the roots, discard the woody parts, then wash and crush the starchy parts. Mix them with water and macerate, agitate and squeeze to free the starch from the fibers, (a blender can be used on a very small scale). The milky, starch filled liquid is then strained to remove the fibers and left to stand until the starch settles out as sediment. The clear water is poured off and fresh water is added to the sediment, which is then stirred and again left to settle. This step is repeated for a third time to get

more starch. After the water is poured off for the last time the starch can be used immediately or allowed to dry for later use.

The wet flour can be used immediately for pancakes, bread and porridge, or to thicken soups and sauces. The dry flour contains about 80% starch and 7% protein and has potential as a new commercial food product. It has been estimated that an acre of plants might yield three tons of starch annually.

Medicine: The downy seeds were soaked in the juice of healing herbs and used to dress wounds. The root starch has been used as a poultice for burns. The pollen has been used to stop bleeding.

Stems and leaves: The fibrous stems and leaves can be used for thatch, baskets, mats, sandals, rafts, hats, belts, screens and many other things. The leaves have been used as caulking between barrel staves, boat planks and the logs of cabins.

Reedmace leaves are the best material for woven rush seating and they were once widely used for this. They are gathered as soon as they reach full size and dried for later use. They are soaked overnight prior to use, to make them supple.

Down: The fluffy seeds can be used to stuff pillows (especially for dream pillows see *Humulus*), lifejackets, sleeping bags, life preservers, walls of huts, mattresses, insulated clothing and quilts. Some people buy do it yourself down clothing kits and substitute Reedmace down for goose down. Native Americans used the absorbent down for the first disposable nappies.

To keep warm in an emergency, stuff handfuls of the down into your boots and clothing (but don't get wet gathering it).

Gather the ripe seed heads as they begin to disintegrate in late summer, break them up and dry cases may be infestation with insects. A possible solution to this might be to add a powdered insect repelling plant such as Tansy (*Tanacetum*) or Wormwood (*Artemisia*).

Tinder: The down and pollen were used to catch sparks for starting fires without matches.

Baby powder: Native Americans often used the powdery pollen as baby powder.

Pollution cleanup: These fast-growing plants take most of the available plant nutrients (especially nitrogen and phosphorus) from the water in which they grow and convert them into vegetation. Consequently they can be used to clean up water polluted by chemical fertilizers and sewage sludge. They aren't as efficient as some tropical species, but they are much hardier and can grow farther north. They have been used in wastewater treatment marshes, to purify wastewater from sewage treatment plants. On a smaller scale they have been used in domestic greywater treatment beds. In Egypt they have been used to desalinate soil for agriculture.

Lights: The whole head can be wired on to a stick, dipped in oil or wax and used as a torch. They may last up to 30 minutes.

Fuel: Growing Reedmaces in sewage treatment plants would result in the production of enormous quantities of organic matter. This biomass could be fermented to produce methane. An acre of the plants could yield as much as 250,000 cubic feet of gas annually. The starchy roots could be fermented to produce alcohol for fuel. The residue left after both of these forms of fermentation is excellent fertilizer and could return a lot of leached nutrients back to dry land.

Ornament: Urban dwellers are probably most familiar with Reedmaces as dried floral decorations. Some people recommend spraying them with hair spray to hold the head together, but this only works if you gather them early enough.

Animal food: The plants are very important to wildlife for food and shelter.

Culture medium: Starch from the roots has been used as a bacterial culture medium.

Cultivation: Reedmaces are easily propagated from sections of rhizome, moved when dormant. They grow in the still shallow water of ditches and lake margins, or any very wet soil. In suitable conditions they spread rapidly, a single plant has been known to produce 35 offsets in a single summer.

Fertilizer: The abundant organic matter produced by the plants can be used as mulch, compost material or green manure. Green parts contain 2% nitrogen, 1% phosphorus and 3% potassium.

Potential crop use: These plants not only produce a wide variety of useful products, but also produce them in large quantities. They could be a useful crop for land that is unsuited to most conventional crops. They are rarely bothered by pests or disease, are perennial (so don't need replanting every year) and don't mind growing in monocultures.

Related species:

T. angustifolia - Narrow Leaved Reedmace

This species is much less common than the above, but can be used in the same ways.

Ulex europaeus / Gorse

Native shrub *Fabaceae*

Gorse is common throughout Britain. The flower buds of this common shrub can be pickled like those of the Broom (*Cytisus*). It is a good windbreak shrub.

Ulmus procera / English Elm

Native *Ulmaceae*

The Elm is still common in England, but gets less so as you go north. It was once the commonest hedgerow tree in Britain and was an important part of the landscape, but sadly this is no longer true. In the 1970's the Dutch Elm disease killed 11 million trees in eight years, stripping many hedgerows of trees. This disease is spread by a lethal combination of tunnelling beetle (Elm Bark Beetle) and fungus (Graphium ulmi).

Food: The inner bark may be eaten raw or cooked, but is not a very attractive food. It has been dried and ground to flour for use in thickening soups, etc, mixed with water to make porridge, or mixed with flour for baking.

Wood: Elm wood is very tough, resists splitting, bends well, is durable if kept wet and has an attractive grain, (it's also rather hard to work with). It has been used for making boats (notably the keel), wheels, carts, furniture, coffins, weather boarding, panelling, fenceposts, veneer, chopping blocks, capstans, pulleys, mallets, chair seats, turning, etc. It was once quite commonly used for water pipes and pumps. Green elm is much easier to work and has been used for turning.

The wood was not very highly regarded for cabinetmaking in the past, when there was such an abundance of fine timber, but in recent years it has become more popular (Dutch elm disease has increased its availability).

Fiber: The inner bark fibers have been used for cloth, mats, baskets, ropes, cords, woven chair seats, etc.

Pollution cleanup: It has been estimated that an acre of mature elm trees may remove fifteen tons of dirt from the air annually!

Fuel: Elm is not considered very good firewood, though it gives about 20 million Btu per cord.

Animal food: Cattle have been fed the dried inner bark when little else was available.

Cultivation: Elm is rarely planted since the fatal disease struck. The seed isn't often viable, so it is usually propagated from suckers or layering It prefers rich, moist, neutral soil. This species doesn't coppice well, but sends up numerous suckers, which can be used in the same ways.

Related species:

U. glabra – Wych Elm

This species is common throughout Britain. It can be used in much the same ways as above. Unlike the English Elm it coppices well.

Ulva lactuca / Sea Lettuce

Native seaweed *Chlorophyta*

This common green seaweed can be found all around the British Isles. It is one of the most photosynthetically active of all seaweeds and in confined pools it may become the dominant plant. It is easy to gather in quantity, but be careful where you gather it, as it thrives in polluted water near sewage pipes, or where nutrient rich fertilizer runoff enters the sea.

Food: This species is best in spring. It is sometimes known as Green Laver, because it is used in the same ways as Laver (*Porphyra*). It is not as useful however, as it is tougher and less palatable. It is often dried and ground to powder, as a nutritional supplement and salt substitute.

Umblicaria pustulata / Rock Tripe

Native lichen *Lichenes*

This species can be found on rocks in the wetter, western part of Britain.

Survival food: Rock Tripe has often been eaten in the far north in times of necessity, but it is usually described as revolting and only slightly preferable to death by starvation. The fresh plants contain acids that cause severe gastrointestinal irritation and must be leached to make them edible. See Iceland Moss (*Cetraria*) for details on the preparation, other uses and cultivation of lichens.

In Japan the native species (*U. esculenta*) is considered a delicacy and is sold in markets under the name *Iwatake*. It is soaked in water to leach out the irritating acids, boiled until tender, seasoned and served in salads and tempura.

Urtica dioica / Stinging Nettle

Native *Urticaceae*

The Stinging Nettle is very common throughout the British Isles. It all of the attributes of a valuable wild food plant. It is highly nutritious, easy to identify, doesn't resemble any poisonous plants, is widely distributed, very vigorous and often available in abundance. It also tastes good enough to have been cultivated as a food crop.

The specific name is derived from the Latin word u*re* meaning burn, while the common name Nettle is from the Anglo Saxon word for needle. These names are a good clue to the plants most obvious asset (as is the word "stinging" of course. The Nettle is covered hollow hairs which act like tiny hypodermic needles. When these are touched they inject a stinging substance containing formic acid. The sting of the Nettle is unpleasant, but usually wears off fairly quickly.

Nutrients: The Nettle has a good reason for protecting itself as it does: this tasty herb is one of the most nutritious of all green plants. It contains more protein than almost any other green leaf, large amounts of chlorophyll, vitamin A, several B's, lots of C and D and an abundance of minerals including calcium, iron (one of the richest plant sources), manganese, phosphorus, potassium, silicon and sulfur.

Gathering greens: The drawback to the use of Nettles as food is that they are only edible when young, for a short time in early to late spring. Not only does the plant get tougher as summer progresses, but inedible crystal deposits form in the leaves.

You need to protect your hand when gathering Nettles, so wear gloves (or anything that comes to hand).

Preparing greens: Obviously this ferocious plant can't be eaten raw, but it actually takes only a few seconds of cooking to render the sting impotent. A few minutes of boiling, steaming or stir-frying produce an excellent potherb. The greens can be used as a substitute for Spinach in any recipe.

The dried, powdered leaves have been added to bread, soups and sauces to increase their nutritional value.

Winter greens: The roots have been taken indoors in autumn and forced like chicory to produce winter greens (see *Cichorium* for more on forcing).

Drink: The dried leaves can be used to make a nutritious tea. This is usually mixed with tastier herbs to improve its flavor. In Europe the young leaves are used to make a palatable non-alcoholic soft drink called nettle beer.

Cheese making: Fresh nettle juice has been used like rennet for making cheese.

Medicine: The plant has traditionally been used as a detoxifying spring tonic, so it's interesting that it contains secretin, a substance that helps the bowels to eliminate mucus. It has also been used to treat arthritis and gout. It was thought to stimulate the kidneys, gall bladder, prostate gland, liver and digestive tract. The greens are a mild laxative and their high nutritive value makes them a useful food for those suffering from anemia.

The fresh juice and powdered leaves, have been used externally as a styptic wound herb. The sting was thought to be beneficial for treating rheumatism, stiff muscles and frostbite. Freeze dried nettles has been found to reduce the symptoms of hay fever.

Nettle rash: The plant is frequently the cause of injury in the form of nettle rash. The traditional treatment for this is to rub the affected area with the crushed leaves of soothing plants, such as Dock (*Rumex*), Jewelweed (*Impatiens*), or Mugwort (*Artemisia*).

Fiber: Nettle is related to Indian Hemp (*Apocynum*) and like that plant it is an excellent source of fiber for cordage, rope, netting, paper, sail cloth, sack cloth and fine fabrics (it was said to be better than Flax). The fibers can be extracted and prepared in the same way as Flax (see *Linum*). Nettles were among the most important fiber plants for Native Americans.

Animal food: For obvious reasons animals avoid fresh nettles, but the dried plants lose their sting and are a valuable animal feed. Nettle hay is actually too rich in protein (about 25% dry weight) to be used alone, so is added to other feed as a nutritional supplement. It is said to increase the disease resistance, weight and general health of cows, poultry and most other animals. Gypsies once fed Nettles to horses to improve their appearance prior to sale.

Shampoo: Nettle tea makes a good hair rinse (sometimes mixed with vinegar), to add shine and body and remove dandruff.

Animal food: Because of its sting the plant is avoided by most mammalian herbivores, though not insects, it is a very important food plant for many of them.

Other uses: The dark green leaves have been used as a green dye and as a commercial source of chlorophyll.

Companion plant: Stinging Nettle is considered to be one of the best companion plants for the garden. When grown with aromatic herbs such as Valerian and Mint, it is said to increase their production

of aromatic oils. It is also believed to make neighboring plants more resistant to disease and attacks by insect pests.

Cultivation: With so many valuable uses for the plants, they are well worth having around the garden. It has occasionally been cultivated as a perennial potherb. If you are lucky you will have it (or a related species) growing nearby. In which case you can divide and transplant some (or take root cuttings), otherwise you will have to grow your own from seed. The plants like rich moist soil and will grow in full sun or deep shade. Their high chlorophyll content enables them to grow with as little as ten percent of daylight.

Nettles can be invasive, so it is best to put them somewhere they can be allowed to run wild without stinging too many people. It has been suggested as a possible cover crop for orchards. An ingenious gardener might use the plant to deter intruders, especially children, or to keep people from getting too near especially cherished plantings.

Fertilizer: Stinging Nettles love nitrogen rich soils and often their presence indicates the site of old human habitations, such as animal pens, dung heaps or abandoned privies. The plant enriches the soil it grows in, as its leaf litter decays into especially rich humus (with an abundance of nitrogen, potassium and other minerals). It was once said that you should plant fruit trees where Nettles grow abundantly.

Biodynamic gardeners have an especially high regard for the plant and use it in many of their formulations. You can make an excellent liquid fertilizer from Nettles (See Comfrey - *Symphytum* for details on how to do this). The same liquid (or the whole plant) is said to stimulate fermentation in the compost pile.

Related species:

All native *Urtica* species can be used in the same ways, though they may not be as good.

U. urens - Small Nettle

Used as above.

Vaccinium myrtillus / Bilberry

Throughout *Ericaceae*

The Bilberry is common on acid soils in most areas of Britain, except the southeast.

Fruit gathering: The berries ripen in mid to late summer and must be gathered as soon as they are ripe, otherwise birds and other creatures will take them. A berry comb greatly speeds up gathering of these small berries.

Fruit preparation: Using the fruit should present no problem. They can be used in many ways, eaten raw out of hand, in fruit salads, cooked in pies, preserves, muffins, sauces, pancakes, fritters (mix with oatmeal or wheat flour, milk and eggs and fry) etc. If you gather more than you can use at one time, dry them in a warm dark place, or freeze.

Antioxidants: Blueberries are one of the richest sources of antioxidants yet discovered. These important nutrients help eliminate toxins, prevent cell damage and may even help to prevent cancer. Everyone should eat more antioxidants.

Drinks: The fruits make good wine and liqueurs.

Medicine: A tea of the leaves was once widely used as a remedy for diabetes and can actually reduce blood sugar levels. This is not a home remedy however, as this effect makes the tea somewhat toxic when drunk in quantity.

The tannin rich berries have been used to treat diarrhea. Paradoxically they have also been used as a mild laxative. They are also said to prevent flatulence and to have a blood-cleansing effect.

Smoke: The leaves of the Bog Bilberry (*V. uliginosum)* (and perhaps others) have been smoked like those of the related Bearberry (*Arctostaphylos*).

Dye: The juice of the berries has been used to dye food, wine, cloth, leather and people.

Animal food: The plants provide food for many wild creatures. The berries (bears, birds, rodents) and foliage (deer) are both important.

Cultivation: Bilberry likes to grow in well-drained, moist, humus rich, slightly acid soils. If it isn't acid then add sawdust, pine needles etc, to lower the ph. They can be propagated by suckers, layering or seed (plant immediately or when needed, it may remain viable for twelve years). They often form an association with nitrogen fixing fungi, which helps them survive in poor acid soils.

Related species include:

V. uliginosum - Bog Bilberry

This species is most common in Scottish bogs. The fruit isn't as good as the above and is rarely produced in quantity.

Vaccinium oxycoccus / Cranberry

Syn *Oxycoccus* spp

Native *Ericaceae*

This species is most often found in acid northern bogs (especially in Scotland).

Gathering: The berries ripen in late fall and may remain in good condition right through until spring if not eaten. Winter is the best time to gather them, as the boggy ground is then frozen solid and the red berries are easier to see. They may even be improved by exposure to frost.

Uses: The red berries are too sour to be pleasant raw, though their juice can be extracted and mixed with other fruit juices in cocktails. Most often they are cooked with sugar to make Cranberry sauce or jelly (the fruits contain a lot of pectin). The whole fruits freeze well.

Native Americans boiled the berries with Maple sauce to produce a kind of jelly, which was used as a traveling food. They also dried the fruits in the sun and ground them to meal for baking. The dried fruits are now widely available commercially and can be used like raisins in muffins and other baked goods.

Medicine: The fruits are rich in vitamin C and available in winter, so have long been used to treat scurvy. European sailors sometimes carried barrels of Cranberries in water aboard their sailing ships to prevent that dreaded affliction. It is sometimes claimed that the fruits can aid in relieving asthma and arthritis. They may also inactivate some antibiotics.

Urinary problems: Cranberries have long been used to treat urinary tract problems such as cystitis. The active ingredient is probably arbutin, which is a potent antiseptic (see *Arctostaphylos*)

Metal polish: Cranberries can be used as metal polish to remove the tarnish from silver.

Crop plant: The berries were gathered commercially from the wild for years before a man named Henry Hall first thought of cultivating them in the early nineteenth century. They have proved to be a useful crop for land on which few commercial crops can be grown without extensive drainage. Many improved cultivars have been produced over the years (mostly from *V. macrocarpon*), especially in Eastern Europe.

Propagation: The plants can be propagated from cuttings (easy), or seed (slow and less dependable). They like wet, acid soil, with a high humus content and part shade. They are hardy, but in the far north they may need the protection of snow, or water, to prevent frost damage. They are mostly self-fertile, but planting several varieties increases yields. In ideal conditions they are highly productive, giving as many as 400 bushels per acre.

Related species include:

V. macrocarpon - American Cranberry

This species is cultivated in Britain and is naturalised locally. The fruits are larger than the above, but are used in the same ways.

V. microcarpon - Small Cranberry

This species is found in peat bogs in the highlands. It can be used as above.

Vaccinium vitis idaea / Mountain Cranberry

Native *Ericaceae*

Food: The leaves have been used for tea. Also known as the Lingonberry, this species is an important source of fruit in the far north, where few other fruits grow well. It is very popular in Scandinavia, where

it is used in pickles, candy, wine, liqueurs, preserves, ice creams and sauces. It is widely cultivated there and a number of improved cultivars are available.

Horticultural uses: This low growing plant can be used as a productive groundcover.

Propagation: The plants can be propagated from cuttings (easy), or seed (slow and less dependable). They like acid soil, with a high humus content.

Valeriana officinalis / Valerian

Native perennial *Valerianaceae*

Valerian is common on grassland throughout Britain. The name Valerian is derived from the latin valere meaning to be strong, though whether this refers to its medicinal properties or its overpowering odor is unclear.

Caution: The roots may be slightly toxic raw. This might just be their sedative effect, but the plant should probably be eaten in moderation.

Tea: The root makes an excellent tea, though it is rather a cultivated taste. It should probably be used in moderation because of its medicinal properties.

Medicine: A tea of the roots is a mild sedative and makes an ideal bedtime tea. It has also been added to dream pillows and baths, for this effect.

Cultivation: This species is widely cultivated for its medicinal root, or as an ornamental for its sweet scented flowers (it's sometimes known as Garden Heliotrope). Propagate from soft cuttings, division or seed, in a good garden soil.

Related species include:

V. dioica - Wood Valerian

This species is quite common in England. It can be used as above.

Valerianella locusta / Cornsalad

Syn *V. olitoria*

Native annual *Valerianaceae*

Food: Cornsalad is locally common in the south of England It is cultivated as a cold weather salad green and can be found as an escape almost anywhere. It is a very hardy plant and often grows right through the winter in mild climates.

Any tender leaves you can find in spring, or fall, can be used in salads or as a potherb. They are often for sale in trendy vegetable markets under their French name; Mache.

Cultivation: Cornsalad is easily grown from seed in average garden soils and a number of improved cultivars are available from Europe. It self-seeds readily and in fact these plants often do better than intentional plantings. It is usually planted in early spring, but in my experience it does best as a fall crop. A spring crop may self sow and reappear in fall. If you have enough seed it can be grown as a cut and come again salad plant.

Related species:

V. *carinata*

Used as above.

Verbascum thapsus / Great Mullein

Native biennia *Scrophulariaceae*

Great Mullein is common throughout Britain. This tall sturdy plant is extremely rugged and highly resistant to extremes of heat, cold and drought. It is often abundant on pasture as the fuzzy leaves irritate mucus membranes so are unpalatable to most herbivores.

Food: The flowers can be added to salads, to give color and flavor, but the plant is rarely used for food.

Medicine: Mullein was probably introduced to this country as a medicinal herb. The leaves were used to treat pulmonary complaints such as asthma, bronchitis, pneumonia etc and as an emollient and demulcent. It is taken in the form of a tea, made in the usual way and strained thoroughly to remove the tiny irritating hairs. The leaves were used externally as a dressing for wounds.

A tea of the flowers has been used to induce sleep. The flowers were steeped in oil (see Rose - *Rosa*) and used as a salve for burns, frostbite, sprains, skin ailments etc.

Smoke: The leaves were once smoked for pleasure (or to ease coughs), usually with other aromatic herbs (see Coltsfoot - *Tussilago*).

Light: The flower stem can be dipped in oil or wax and used as a candle, for which reason it was known as Torches or Candlewick plant. Another explanation for the latter name is that the leaves were used for candle wicks (also tinder).

Cosmetics: The irritating hairs on the leaves will redden the skin and poor young girls apparently used them to redden their skin like rouge.

Foot warmer: Poor people are also said to have used the leaves to keep their feet warm in cold weather. Apparently the leaves were put in the shoes as insoles and their irritating hairs caused blood to flow into the feet, thus warming them (that's the theory anyway).

Cultivation: Some Thapsus species are grown as ornamentals, even this one on occasion (I leave it to bloom in my flower garden). It would undoubtedly be more popular if it didn't grow so abundantly as a weed. Mullein may be propagated from the long lived seed, in well-drained soil.

Verbena officinalis / Vervain

Native perennial *Verbenaceae*

This species is common in waste places and roadsides in southern England and Wales.

A tea of the leaves was used as a mild sedative and to relieve headaches and menstrual problems such as cramps. Use with caution as it can also be emetic. It was used externally to clean wounds and as an eyewash for sore eyes (it was even thought to help restore eyesight). It is also useful for protecting oneself against witchcraft.

Veronica beccabunga / Brooklime

Native aquatic perennial *Scrophulariaceae*

Brooklime is common in wet soils and shallow water throughout Britain. The common name is a very old one and is derived from the AngloSaxon words brook (stream) and lime (meaning mud), which pretty much describes its habitat.

Caution: The same caution I gave for Watercress (see *Nasturtium*) about gathering from clean water, also applies to Brooklime. If the water is polluted or contaminated, the plant will be also and washing won't clean it. Of course cooking will kill any harmful organisms, though it won't eliminate chemical pollutants. I don't know whether parasite eggs can live in this plant, as they do in Watercress.

Greens: These plants like the same conditions as Watercress and the two plants are often found growing together. Appropriately enough, they can be used together to make a tasty salad. Brooklime is rather bitter in flavor, but I don't find it unpleasantly so. The tender young leaves can be gathered from early spring until the flowers appear and used in salads. Older leaves can be gathered anytime for use as a potherb, though you will probably have to change the cooking water at least once to reduce their bitterness.

Medicine: Brooklime was once greatly valued as a medicinal herb for treating scurvy and respiratory problems. It is also a good wound poultice.

Cultivation: These plants are cultivated like Watercress.

Related useful species include:

V. anagallisaquatica - Water Speedwell

V. comosa

Used as above.

Viburnum opulus / Guelder Rose

Native shrub *Caprifoliaceae*

This shrubby species is common over most of Britain.

Fruit: The juicy red fruits hang on the plant well into the winter and may be improved by repeated exposure to frost. Unfortunately they are bitter and unpleasant unless cooked and sweetened. They can be used like cranberries in preserves, jelly (they are rich in pectin) sauces etc.

Drink: A drink can be prepared by simmering the fruits in water, with citrus peel and honey to taste (or aromatic herbs). They can also be fermented to make wine.

Medicine: The fruits are rich in vitamin C and have been used to treat scurvy.

Animal food: The berries are eaten by birds, rodents etc and the foliage by deer and other herbivores. The shrubs also provide shelter for small creatures.

Cultivation: This species is often cultivated as an ornamental for its pretty flowers, berries and fall foliage. It is very hardy and easily grown in moist soils from ripe seed, cuttings taken in late summer from soft or hard wood or layering. Once established it needs little attention and makes a fine hedge or screen.

Vicia species / Vetches

Native *Fabaceae*

Various useful Vetches can be found throughout Britain.

Food: A number of *Vicia* species have been cultivated for food, the most important of which is the Broad or Fava Bean (*V. faber*). The green pods, immature seed and ripe seeds can be used in the same ways as broad beans. The young growing tips can be used raw or as a pot herb. All parts should be used in moderation, as they may be somewhat toxic if eaten in quantity.

Fertilizer: These species fix atmospheric nitrogen by means of bacteria in their root nodules and under ideal conditions they have been known to yield 20 tons of vegetable matter per acre annually. Gardeners sometimes plant Vetches in fall, as a winter cover crop to prevent nutrients leaching away in winter rains and to add nitrogen and humus to the soil. They are dug into the soil the following spring prior to planting. They have also been planted to prevent erosion on bare slopes.

Cultivation: Most species can be grown from seed and are not particular as to soil type.

Useful species include:

V. cracca - Tufted Vetch

This species has been cultivated as an ornamental and food crop. Use as above.

V. ervilia *V. hirsuta*

V. gemella *V. pisiformis*

V. sativa *V. sepium*

V. sylvatica

The seeds of these species have been eaten and the plants have occasionally been cultivated for them.

Viola odorata / Sweet Violet

Native perennial *Violaceae*

Sweet Violet is common in woods and hedgerows in the south of England.

Greens: The tender spring leaves are very rich in vitamins A and C and can be used in salads, or as a potherb. Older leaves are rather astringent, but have been used as a potherb (usually mixed with other greens).

Flowers: All of the blue flowered species can be eaten, though none are as good as the scented flowers of the European Sweet Violet (*V. odorata*). This species is commonly cultivated for its flowers. Don't worry that gathering the flowers will prevent the plants from perpetuating themselves, as these showy flowers rarely produce seeds. In summer these plants produce a flush of inconspicuous cleistogamous flowers and these produce an abundance of seed.

The flowers can be added to salads to make them more attractive. They can also be cooked with the leaves as a potherb.

Tea: The leaves and flowers can be used to make a passable tea.

Medicine: The Sweet Violet is the most important species for herbalists. Its leaves have been used internally as an expectorant, demulcent and laxative. They have been used externally as a poultice for skin diseases (they contain beta-ionone - a natural fungicide), wounds and even cancer. It is probable that native species share similar uses.

Cultivation: Violets are popular ornamentals and many attractive cultivars are available. They are mostly woodland plants and like rich, moist soil, with some shade. Propagate by means of seed, cuttings

or division. Some species are quite invasive, as they can spread vegetatively and by self-sown seed. I wouldn't consider them to be serious weeds though.

Related species:

Probably any blue flowered species be eaten in moderation. They don't have the aromatic flowers but their leaves are good.

V. canina - Dog Violet

Used as above.

Zostera marina / Eelgrass

Native perennial *Zosteraceae*

This cosmopolitan plant grows in coastal waters all around the Northern Hemisphere from the tropics to the Arctic. It is widely distributed around Britain and is locally abundant in some areas. Eelgrass is unusual in that it is a flowering plant, yet grows on tidal mud flats where it is usually submerged in seawater (it has essentially returned to the sea its ancestors left). It isn't a member of the grass family, but superficially looks like it could be. It provides a similar ecological niche as some seaweeds, but differs from them in one important respect; its creeping rhizomes grow in mud, whereas seaweeds can't anchor themselves in mud. It lives in sheltered inlets and bays and slowly traps debris, which builds up around the plants.

Food: This plant has been an important food source for a number of Native American tribes, from the Seri (in Mexico) to the Kwakiutl (in Canada). It has been known as the Wheat of the Sea.

Caution: Don't gather the plants from areas that may be contaminated with sewage, or other human-made pollutants.

Stems: The sweetly flavored young leaves and stem bases, can be eaten in spring and early summer. Gather them at low tide, or from a boat, peel off the tough outer leaves. They can be eaten raw, steamed or in soups. Older stem bases can be chewed, but are too tough to eat.

Root: The roots can be eaten raw or cooked.

Seed: The nutritious seeds contain about 13% protein, 50% starch and 1% fat. A single plant produces up to 250 small seeds. They are prepared by sun drying, threshing, winnowing, parching, winnowing again and then grinding to flour. The Seri people of Mexico used the flour for porridge and bread.

Fiber: The rot resistant grasslike leaves have been used for roof thatch, basket weaving, bedding, packing material, hats, upholstering furniture, mattress stuffing, paper and building board.

Chemicals: The plants were once burned to produce sodium carbonate for making glass and soap.

Building insulation: Eelgrass was once harvested commercially to make building insulation. The dried material was sandwiched between two layers of Kraft paper and stitched together into a quilt known as Cabots' quilt, after its inventor. This was quite successful until one of its periodic declines occurred, which caused the grass to disappear for a while.

Energy: These fast growing plants could potentially be used as a source of biomass for producing methane or alcohol.

Animal food: Eelgrass is vitally important to marine life as food, shelter and habitat. Detritus from rotting plants serves as the bottom of the food chain, providing food for small fish, shellfish, shrimp, crabs and other small creatures, which in turn provide food for other creatures. It also provides shelter for such creatures and serves as a marine nursery. The seeds eaten by many water birds.

The foliage has been widely used as fodder for livestock (notably by Julius Caesar's army when he invaded North Africa in 46 B.C).

Cultivation: Eelgrass has been proposed as a rather unique marine grain crop plant for shallow tropical waters (an environment not noted for its grain production). The plants grow best in clear, warm, brackish water (not fresh and not salt) and can be propagated vegetatively, or by seed. In the wild the plants periodically decline in numbers and this can have a disastrous effect on other marine life, both animal and plant. It was once thought that a fungus was responsible for this, but it is more likely due to fluctuations in water temperature. There is some concern that commercial harvesting (or even gathering storm cast material) from beaches could eventually have an adverse effect on marine life.

Fertilizer: Large amounts of Eelgrass are often washed ashore after storms and the rain-washed plants make good mulch, compost material or green manure.