

How to grow
**Perennial
Vegetables**

Low-maintenance, low-impact vegetable gardening

Martin Crawford



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Introduction

We in Europe or North America are not very used to growing or eating many perennial vegetables. There are a few that most people know – globe artichoke and rhubarb probably being the most familiar – and some, like potatoes, are grown as replant perennials (see page 21). However, the way agriculture has developed, into an almost entirely short-lived-plant-based and mechanised method of growing vegetables and grains, means that perennials have been somewhat left behind.

Why should this be? Perhaps it is partly because the soil is easily tilled between annual crops to keep it weed-free. With perennials, once they are established then mechanical or chemical weeding is not usually quite so easy.

Another factor is yield. Most short-lived vegetables are either killed when they are first harvested or are exhausted at the end of the growing season by regular harvesting. They have short lives and have to grow fast.



Poke root – a North American wild edible that it is easy to grow. The cooked shoots are delicious.

Why grow perennial vegetables?

Most gardeners who want to grow some of their own food have a combination of annual vegetables and fruit bushes and/or trees, but few have perennial vegetables (apart from, perhaps, rhubarb). This seems such a shame, because there are some fantastic food plants out there with delicious flavours, which are often very easy to grow.



Oca is a crop widely grown in the Andes, with delicious lemon-flavoured tubers.

What is a perennial vegetable?

For the purposes of this book, a perennial vegetable is defined as a plant that lives for at least three years, and is raised for some edible part of it – such as the leaves, shoots, leaf stems, roots or flowers. The edible part might be used raw or cooked. The plant must also be capable of being harvested without killing the plant itself. You'll also find some well-known fruiting plants included in this book as a vegetable – strawberries, for example. These are included only if a part other than the fruit can also be eaten.

There is a distinction, rather blurry, between a vegetable and a herb. A herb (in the culinary sense) is a plant with a strong distinctive flavour, used as a flavouring in relatively small amounts. So in this book I would not include, say, lovage as a perennial vegetable, even though it is perennial, and is edible. However, I do include some plants that we often think of as herbs if they can be used in bulk amounts in salads or cooked dishes – so you will find entries for some of the mints, and for sweet cicely.

In the context of this book, I am talking about plants being perennials in the climatic conditions found in the temperate and continental climates of Europe and North America. Some annuals, of course, become perennials if the climate is warm enough, and these are not usually included unless, like runner beans, they can be grown as a replant perennial (i.e. a plant that is perennial in a warm climate but in a cold climate can still be grown by lifting plant parts in autumn, storing them over winter and replanting in spring).

Also in this book are some replant perennials such as potatoes and mashua, where it is common practice to save some of the tubers

from the previous autumn to replant the following spring.

The case for growing perennials

There are lots of reasons why growing perennial vegetables makes sense.

Less work

You don't have to cultivate the soil every year. Turning the soil over takes a lot of energy, whether it is tractor energy in ploughing or human energy in digging. Because perennials are planted only once (or once every few years) you do not have to disturb the soil so often.

If you stop turning the soil, and keep on top of the flush of weeds you'll get from the initial soil preparation, then the weed seed bank in the top layer of the soil will not get replenished with deeper dormant seeds. You'll find that the weeding required decreases over time, especially if you mulch around your perennials.

Because with most perennials you do not dig them up every year, it is more important to weed out pestiferous perennial weeds when small. (When growing annual crops, the weeds can always be dug out in winter.) Nevertheless, even in the first year after planting, the weeding demanded should not be any greater than that for an annual crop.

Fewer carbon emissions

A few years ago, nobody considered what carbon emissions were resulting from agriculture and horticulture, but that is changing rapidly. Growing food and other materials creates a lot of carbon in the

Types of perennial plant

This book describes plants of the following types.

Trees

A number of trees have edible parts that may be used as a vegetable, one example being the snowbell tree. A tree like this, which is grown for the young fruits, is not usually coppiced (see 'Coppiced trees', below, for these) as this would cut off the fruiting wood.

Shrubs

Likewise, a number of shrubs provide vegetables. One is the American elder, whose flowers can be fried as a fine vegetable. I include bamboos – one of the finest of the spring vegetables – in shrubs, even though they are strictly speaking perennial grasses.

Coppiced trees

Trees that provide a leaf vegetable are often coppiced to maintain them as more of a compact bush and so make leaf harvesting easier and more practical. The branchwood from coppicing may also be of use for firewood or for growing mushrooms on. The coppice cycle can be anything from one to five or more years, depending on the vigour of the tree and the desired size. I coppice large-leaved lime annually, and small-leaved lime every three to five years, and use the young leaves widely as a salad vegetable.

Herbaceous and evergreen perennials

Most of the plants described in this book fall into this category, which gardeners often

just call 'perennials'. Herbaceous perennials – for example, asparagus – die down to underground roots, rhizomes or tubers in the winter. Evergreen perennials – for example, globe artichoke – retain some or all of their leaves over winter. Some perennials do not fit so neatly into these categories: for example, many mallows retain a rosette of green leaves over the winter in milder areas but may not do so in colder areas. From here on, herbaceous and evergreen perennials will be referred to as 'non-woody perennials'.

Perennial bulbs

The alliums are good examples of perennial bulbs, and there are several described in this book. The top growth of bulbous plants usually dies back for a part of the year – though not necessarily winter. So, for example, Babington's leek dies back to a bulb from late July to early September, whereas ramsons dies back from late June to February. The bulbs that die back for part of the summer usually prefer well-drained sunny sites and can be particularly useful for a supply of leaves in winter.

Perennial ferns

Well, 'fern', actually – there is only one mentioned in this book, ostrich fern, whose young 'fiddleheads' are a well-known wild edible in North America and Scandinavia. Other ferns, for example, bracken, have been eaten in the past but are now not considered safe to eat.

Climbers

There are both climbing herbaceous perennials (e.g. hops) and climbing shrubs (e.g. grape vines) that can be used as vegetables. These plants can be grown in

many ways, from bushy plants kept small by harvesting to climbers covering walls, fences, trees, etc.

Aquatic perennials

These are plants growing in water, usually dying back to bulbs or rhizomes for the winter. An example is American arrowhead or duck potato, which forms tubers that are eaten cooked in various ways.

Replant perennials

These are plants that are perennial in warm climates and sometimes mild temperate climates, usually producing tubers or rhizomes, but are not hardy enough to survive winters in colder temperate climates. I have included some of these in the book, even though they are not truly perennial in colder regions, because plants like mashua and cinnamon vine or Chinese yam can be grown in some milder temperate regions such as the south of England, and in warmer microclimates. Potato is a replant perennial (though the ones that evade harvesting often survive the winter and regrow), and runner beans can also be grown in this way.

Perennial root and tuber crops

It is common for folk to say to me "It's all very well having all these leafy vegetables, but where are the substantial bulb and root vegetables to take the place of onions, carrots and parsnips, etc.?" Well, several of the above categories of vegetable have roots or tubers as the main crop. These are listed in the table, right.

Tuber, bulb and root vegetables	
Vegetable	Crop type
Arrowheads	Tubers (underwater)
Babington's leek	Bulbs
Chinese artichoke	Tubers
Egyptian onion	Bulbs
Elephant garlic	Bulbs
Garlic	Bulbs
Groundnut	Tubers
Jerusalem artichoke	Tubers
Marsh mallow	Roots
Mashua	Tubers
Multiplier onions	Bulbs
Oca	Tubers
Potato	Tubers
Prairie turnip	Roots
Rocamboles	Bulbs
Scorzonera	Roots
Sea kale	Roots
Silverweed	Roots
Skirret	Roots
Sweet cicely	Roots
Sweet potato	Tubers
Ulluco	Tubers
Water caltrop	Tubers (underwater)
Water chestnut	Tubers (underwater)
Water lotus	Rhizomes (underwater)
Yacon	Tubers
Yams	Tubers
Yellow asphodel	Roots

Growing perennial vegetables under existing trees

In some gardens you may be starting with a woodland situation – high trees casting quite a lot of shade beneath. A number of shade-tolerant perennial vegetables can be introduced into the lower layers beneath the trees, including those in the table below. (Again, this table shows plants with tolerance to substantial shade, but does not indicate the total range of light conditions that each plant can tolerate.)

Redwood sorrel
Siberian purslane
Solomon's seals
Sorrels
Strawberries
Stringing nettle
Udo
Violets
Wood sorrel

If you are starting with a fairly wild site, then beneath the trees you are likely to have a mixture of brambles, nettles, seedling trees and other plants. You'll obviously need to clear areas of these before planting out perennial vegetables, and using sheet mulches is the obvious way to do it – you won't be able to easily dig over the soil because of the root systems of the trees.

Once areas have been cleared, then planting out small plants is the best way to proceed – larger ones will need bigger holes dug for them, and you'll find that the tree root systems in the soil are often in the way. Smaller plants can often be slipped into tiny holes alongside or between existing roots.

You could also try broadcasting seed for some species. For example, wood mallow and Siberian purslane usually germinate quickly after sowing. Other plants, though, require their seeds to go through a winter (i.e. undergo stratification) before they will germinate – meaning that the seed is vulnerable to predation over a long period. Also for some, seed is not often available.

Each year you might well find, especially if the high trees above are native, that you need to weed out tree seedlings that

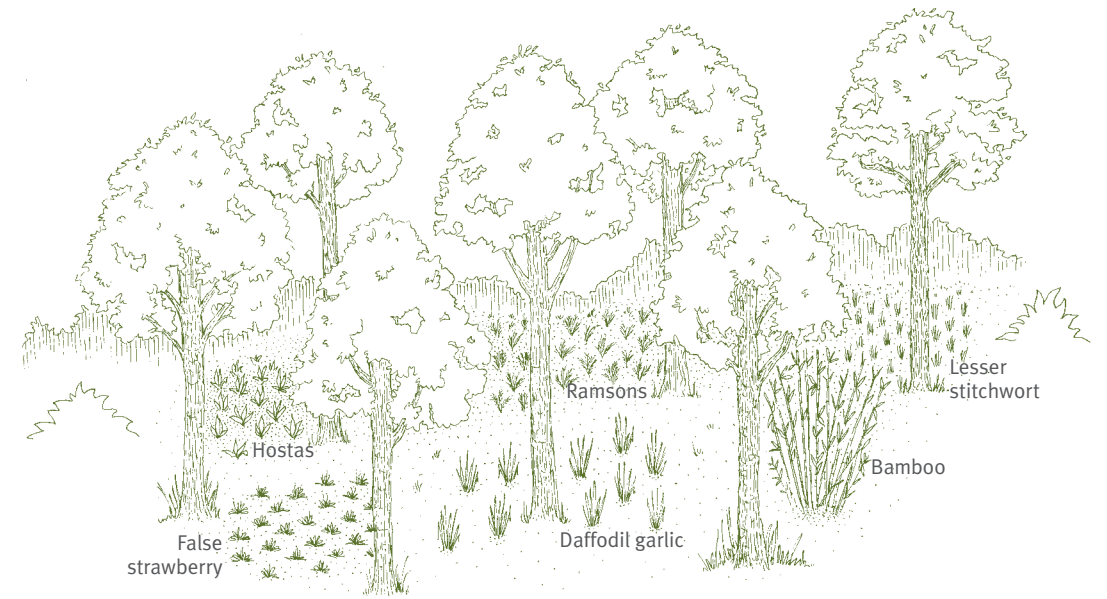


Diagram 10. Growing perennial vegetables under trees.

germinate in your perennial beds. Brambles too are likely to need watching out for.

Growing aquatic perennial vegetables

Growing perennial vegetables that need aquatic conditions introduces a new set of challenges. How to grow in a pond or an

artificial container? How, for example, do you harvest the produce? A pond system is more aesthetically pleasing, and integrates easily with other plants nearby. On the other hand, harvesting is often more difficult from a pond than from a container, and, where the pond becomes deep, is potentially dangerous. However, some plants require a depth of water that is practical only with a pond system.

Aquatic perennial vegetables	
Vegetable	Depth required
Arrowheads	Marginal plants – 0-45cm (0-18") deep, planted in mud or pots
Water caltrop / water chestnut	Floating plant – in water 10-30cm (4-12") deep, with a little soil beneath
Water chestnut / Chinese water chestnut	Marginal plant – 10-30cm deep (4-12"), planted in mud or pots
Water lotus	Semi-marginal plant – 30-45cm (12-18") deep, planted in mud or deep pots
Watercress	Can be grown in constantly damp soil or in shallow water up to 15cm (6") deep

Perennial vegetables tolerating substantial shade
Apple mint
Babington's leek, perennial leek
Bamboos
Beech trees
Bellflowers
Bowles's mint
Columbine
Daffodil garlic
Dandelion
False strawberry
Giant butterbur
Hostas
Lesser stitchwort
Lime trees
Mallows
Ostrich fern
Poke root
Ramps
Ramsons



Orpine has wonderfully succulent edible leaves.

Part 2

Perennial vegetables A-Z

Chicory (*Cichorium intybus*)



Also known as radicchio

Chicory is a small deep-rooted dandelion-like European plant with many biennial and perennial forms – only the latter are discussed here. It is about 30cm (1') wide, but with a flower spike up to 1.2m (4') high topped with pretty blue flowers. It is a good mineral accumulator and grows wild in fields and meadows and roadsides. Note that Witloof chicory, used to force chicons, is a biennial.

Radicchio is a variety of chicory that resembles a small red cabbage. It forms a compact head of dark red leaves, veined in white. The size ranges from that of a large radish to that of a large grapefruit.

Hardiness zone: 3

Cultivation

Chicory grows in any reasonably drained soil; most lushly in fertile soils. It prefers full sun but will tolerate light shade.

Varieties: Most varieties bred for leaf production are perennial, and include the following.

'Cerolio' – has tight dark rosettes.

'Da Taglio Foglia Larga' – pale green leaves, very productive.

'Dentarella' ('Italian Dandelion') – green-leaved, resembles a large dandelion.

'Grumolo Bionda' – pale green leaves in open rosettes.

'Grumolo Verde' – small plant with green leaves, very cold-tolerant.

'Italo Rossico' ('Red Rib Dandelion') – green-leaved with deep red mid-ribs.

'Puntarella' – has thick, succulent, contorted stems.

'Rossa di Treviso' – bears long leaves, turning dark purple-red in autumn. (Pictured left.)

'Rossa di Verona' – bears medium-sized leaves that turn dark purple-red in autumn.

'Spadona' – has long rounded leaves.

'Zuccherino of Trieste' – small green leaves, very productive.

Harvest: Leaves are harvested throughout the growing season but become more bitter on flowering plants – flower stalks can be cut back to lengthen the harvest. Roots can be harvested in autumn and winter and roasted to make a coffee-like beverage. They can be stored in sand or similar moist medium.

Plants can be blanched in spring to improve the flavour of the leaves (much like rhubarb – exclude light with a large upturned pot or other rigid cover).

Propagation: Chicory is usually grown from seed, which germinates quickly.

Culinary uses

The slightly bitter leaves are widely used in salads and added to cooked dishes (they only need a few minutes' cooking). If wilted over a flame for a few seconds they lose most of the bitterness. Don't hold over a flame for long or you'll have crispy chicory.

The roots are cleaned and roasted before being ground for use as a coffee substitute.

Maintenance and potential problems

Little maintenance is required. The only potential problem is vigorous self-seeding if there is much bare soil about.

Chinese artichoke (*Stachys affinis*)



Also known as crosnes

This is a perennial tuber crop, long grown commercially in China and Japan. The name

'crosnes' originates from the place in France they were first grown in Europe.

It forms a low spreading clump, 30-45cm (1'-1'6") high, with each plant producing strings of white tubers at the end of underground stems each autumn. The plants closely resemble the British native hedge woundwort (*Stachys sylvatica*), with square stems and rough leaves (though not fragrant). They bear blue flowers, which are loved by bees.

The tubers are white, 2.5-5cm (1-2") long to 2cm (3/4") wide, cylindrical with distinctive 'rings' (see photo overleaf). Some folk reckon they resemble huge white grubs or chubby maggots.

Several North American related species also have edible tubers, including hyssop-leaved hedgenettle (*S. hyssopifolia*) and marsh woundwort (*S. palustris*).

Hardiness zone: 5

Cultivation

Chinese artichoke grows in any reasonably well-drained soil, though yields are highest in fertile soils. Tubers are harder to harvest from heavy soils. It likes sun or light shade, and plants tolerate high summer temperatures. Tubers will rot in waterlogged soils in winter.

If this crop is grown with a thick organic mulch on the soil surface, the tubers will be very near the soil surface beneath the mulch, making harvest very easy.

Plants do not particularly suffer or deteriorate through overcrowding, though

Hosta flowers come in white, lavender and violet, but of course many of the ornamental varieties have striped and coloured leaves instead.

Hardiness zone: 4

Cultivation

Hostas are happy in any moist soil in a shady situation – they tolerate quite deep shade.

Varieties: There are many ornamental varieties of the species listed above, all of which can be eaten – the larger-growing selections provide more edible material, as the leaf clusters are larger, and they are also easier to cultivate. Large-leaved selections of *H. sieboldiana* include ‘Big Daddy’, ‘Blue Umbrella’ and ‘Elegans’.

Harvest: The curled leaf clusters – which look a bit like chicory chicons – are harvested in spring by cutting at soil level. Plants need to be a few years old before the first harvest, then the first flush of clusters can be harvested each year. Replacement clusters should be allowed to grow on.

Propagate: This is normally by division of existing clumps in winter. Hostas can be grown from seed in spring, but varieties are unlikely to come true from seed.



A hosta shoot in spring, at the right stage to harvest.

Culinary uses

Hosta leaf clusters are cooked before being eaten, either by steaming, frying or boiling. They are particularly good served with butter or a sauce.

Maintenance and potential problems

The only real problem – and it can be serious – is slugs and snails, which love to eat hosta leaves and stems. Encourage predators like frogs by having a pond nearby, use traps in early spring, and consider using the biological control nematode against molluscs and organic slug pellets (containing iron phosphate).

Ice plant & orpine (*Sedum spectabile* & *S. telephium*)



These two sedum species are sometimes separated out into the genus *Hylotelephium*, because they are rather different in character, with their large fleshy leaves, whereas most sedums have tiny leaves.

Ice plant (*S. spectabile* – pictured above) and orpine (*S. telephium*) are herbaceous greyish-green perennials that are widely used as ornamentals in gardens. They bear white or pink flowers in heads, which are very attractive to bees. Ice plant grows in clumps about 45cm (1'6") high and wide, while orpine is slightly taller, reaching 60cm (2') high and 30cm (1') wide and spreading slowly.

Hardiness zone: 6

Cultivation

These two species like any well-drained soil and full sun or light shade.

Varieties: Any of the ornamental varieties can be used as a vegetable.

Harvest: Pick the fleshy leaves at any time during the growing season. In very dry spells in summer they can sometimes get a little bitter.

Propagation: Raise from seed (very fine – sow on the surface of a fine compost in spring), divide in spring, or take softwood cuttings in summer.

Culinary uses

Use the leaves in salads, whole or roughly chopped – they are succulent and juicy and really add to a salad on a hot summer day!

Maintenance and potential problems

None of either.

Japanese asparagus See Udo (*Aralia cordata*)

Japanese butterbur See Giant butterbur (*Petasites japonicus*)

Japanese parsley See Mitsuba (*Cryptotaenia japonica*)

Jersey kale See Tree collards (*Brassica oleracea* Acephala Group)



Leave some tubers in the ground for perennial regrowth. Take care not to damage them as you dig. They form in a clump close to the centre of the plants.

The tubers store well in a cool dark place. Yields of at least 500g (1lb 2oz) per plant should be obtained.

Leaves can be harvested through the growing season.

Culinary uses

Oca tubers are excellent for eating raw or cooked. When first dug they have sweet-acid flavour (the lemony acidity is from oxalic acid), but if left in the sun for a few days the acidity lessens and they taste sweeter.

They do not need peeling. You can use them in salads (they are crunchy like carrots), or cook them like small potatoes – the cooked flavour is like slightly lemony potatoes and they are superb served with butter or oil. Nutritionally, they are similar to potatoes.

You can also eat the leaves, which taste similar to wood sorrel (see page 200), and can be used in salads, etc. As with other sorrels, they should be eaten in moderation.



Oca tubers.

Maintenance and potential problems

In cold areas, make sure you store some of the tubers over the winter to replant the following spring.

Oriental bunching onion

See Welsh onion (*Allium fistulosum*)

Oriental garlic

See Garlic chives (*Allium tuberosum*)

Orpine

See Ice plant and orpine (*Sedum* spp.)

Ostrich fern

(*Matteuccia struthiopteris*)



Also known as shuttlecock fern

This is a very hardy fern from northern temperate regions, well known as a wild edible in North America and Scandinavia. It

spreads via rhizomes to form colonies of plants, each of which can reach 1.5m (5') high and 60cm (2') wide. The ferns are shuttlecock-shaped, hence its alternative name. The curled young shoots uncurl as they grow, giving them the name 'fiddleheads'. This is one of the few ferns now considered safe to eat.

Hardiness zone: 2

Cultivation

Ostrich fern will grow in any moist soil in some shade – it tolerates quite deep shade and acid soil. Plant at a spacing of 60cm (2') or so – plants will spread in time.

Varieties: 'Jumbo' is a vigorous form that grows 2m (6'6") high.

Harvest: Pick the fiddleheads in spring from when they are first seen until they are 5-6cm (2-2 1/2") high when still tightly curled. After this they rapidly get too tough.

Propagation: Plants can be propagated by division of existing clumps or grown from spores, though these are not always available commercially. They are dust-like and difficult to handle, and need to be sown on the surface of a compost that is kept moist and in shade. Division of existing clumps is easy.

Culinary uses

The young fiddleheads are eaten as a cooked vegetable – boil for 15 minutes (not less, as they can occasionally cause stomach upsets if undercooked). The flavour is like a cross between asparagus and broccoli. They have a crisp texture and are often eaten with eggs.

Maintenance and potential problems

No problems or maintenance needed.

Perennial brassicas

See:

Chinese broccoli (*Brassica oleracea* Alboglabra Group);

Perennial broccoli (*Brassica oleracea* Botrytis Group);

Perennial kale (*Brassica oleracea* Ramosa Group);

Perennial wild cabbage (*Brassica oleracea*);

Tree collards (*Brassica oleracea* Acephala Group)

Perennial broccoli

(*Brassica oleracea* Botrytis Group)



Only one variety of this plant appears to be in cultivation, 'Nine Star' (pictured above. The white flowers are lesser stitchwort – also edible and a good interplant). This looks identical to normal broccoli or cauliflower plants, growing 60-90cm (2-3') high and wide. It is a short-lived perennial,



Perennial vegetables are a joy to grow and require a lot less time and effort than annuals. In this book Martin Crawford gives comprehensive advice on all types of perennial vegetable (edible plants that live longer than three years), from ground-cover plants and coppiced trees to plants for bog gardens and edible woodland plants.

There are many advantages to growing perennial vegetables. For example:

- they need less tillage than conventional vegetables and so help retain carbon in the soil
- the soil structure is not disturbed in their cultivation
- they extend the harvesting season, especially in early spring
- and, of course, they are much less work.

Part One looks at why and how to grow these crops, and how to look after them for maximum health.

Part Two features over 100 perennial edibles in detail, both common and unusual – from rhubarb to skirret; Jerusalem artichoke to nodding onions. This book offers inspiration and information for all gardeners, whether experienced or beginner, and also includes plenty of cooking tips. It includes beautiful colour photographs and illustrations throughout.



The author: Martin Crawford is director of the Agroforestry Research Trust and has 2 acres of perennial plants and trees in his forest garden. He has worked in organic agriculture and horticulture for over 20 years and is author of the bestselling *Creating a Forest Garden*, also published by Green Books.

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www.greenbooks.co.uk

Publication: April 2012 • £14.95 paperback
234mm x 168mm • 224pp full colour • ISBN 978 1 900322 84 3

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