

THE WONDERFUL WORLD OF GARLIC

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Pauline Pears' detailed guide to growing your own organic garlic includes varieties, planting times, soil needs and possible problems.

Garlic is a strange plant - not quite a herb, not quite a spice, not quite a vegetable. Its pungent smell and strong flavour engender either passion or loathing and its reputed value against vampires is widely known, if little tested. Garlic's medicinal and pesticidal properties are better documented.

Garlic is a member of the onion or *Allium* family, and it comes in two sub-species, sometimes called varieties. The best known and most commonly found in shops is *Allium sativum*. The other, *ophioscorodon*, is usually known as 'hard neck' garlic, because it produces a stiff 'flower' stalk. It is also called 'serpent' garlic. Both types are available, and can be grown, in the UK. Hard neck garlic varieties will not store for as long as the soft-necked *sativum*, but tend to produce larger bulbs.

You may also come across Elephant garlic. This is not a garlic at all, but a type of leek, which produces very large garlic-like cloves with a mild garlic flavour. The name Rocambole is also applied to some types of garlic, but it is not used consistently. Some writers use it to refer to the sand leek, *Allium scordoprasum*; others to garlic types that produce a coiled stem.

Buying for planting

Garlic is easy to grow, and is available in an increasing range of named varieties. If you want to experiment, there are around 30 or 40 different varieties available. They differ in skin colour from white to rose pink and purple, in growth habit, planting time, harvest time, size of bulb produced, strength of flavour and storage period. It is worth getting details from

suppliers listed below before making your choice.

If you are simply looking for a reliable crop, try Thermidrome, Germidour, Cristo, Printanor or Solent White. According to The Garlic Seedstock Company the best variety for colder wetter areas is Music.

It is best to buy 'planting' garlic rather than simply planting what you buy from the shops. Garlic sold for eating may not be suitable for growing in the UK, or it may have been cold stored, which means it might start to grow tops before the roots have formed. It could also be virus infected. Always buy whole bulbs, and only divide them up into cloves shortly before planting.

Climate needs

Stiff-necked varieties need a period of winter cold to crop well, with soil temperatures below 10C (50F) for six to eight weeks, and all varieties are the better for it. This means that autumn planting – mid-September to mid-November – is best. Autumn planting also encourages good root growth before winter, so plants get off to a good start in the spring. If you plant in spring, choose a variety such as Cristo that is noted as particularly suitable.

Garlic will withstand low temperatures as long as the soil isn't too wet. If your soil tends to be poorly drained, plant garlic in pots in the autumn and leave them outside for the winter. Transplant the garlic into the garden in the spring.

After a period of winter cold, it

will enjoy a wet spring, followed by warm to hot temperatures with lots of sunshine in the period leading up to harvest in July or August.

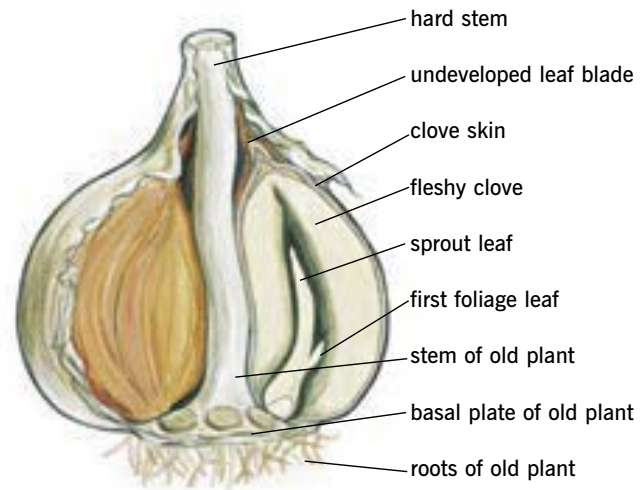
Soil

Garlic will tolerate most soils, although it prefers a free-draining loam with good organic matter levels. Heavier soils, and those very high in organic matter, tend to stain the outer wrapper, though this does not affect yield or eating quality. On poor, light soils garlic will tend to produce small bulbs, but these will keep well, and may have the strongest flavour. It can also be grown in containers.



The botany of the garlic plant is unusual. Garlic is propagated vegetatively, usually by planting cloves - the individual crescent-shaped sections of the garlic bulb. It has been propagated this way, and only this way, throughout its known history. Only in the past 10 years or so have scientists managed to collect true seed from the plant. It usually takes cross-breeding to create genetic variation in a plant, so the variety of garlic in existence, though relatively small, is surprising.

No one seems to know exactly why 'cloves' are called cloves. They are a form of leaf, that surrounds the bud which grows into a new garlic plant. This specialised leaf nourishes and protects the bud in periods of rest and early growth.



Anatomy of a garlic clove in an *ophioscorodon* bulb

Garlic needs a moderately fertile soil. Soil manured for a previous crop is fine. Apply compost or a general organic fertiliser to poor soils before planting. No further feeding should be required. Keep garlic with onions and leeks in your crop rotation.

Depth and spacing

Plant garlic cloves with the pointed end upwards, the 'scar' end down. Advice on planting depth is variable – anything from 1-10cm (0.5-4in) above the tip of the clove being



Healthy garlic plants in spring.

recommended. The lighter the soil, the deeper it can be planted. It is best to use a trowel, as pushing it in may hinder root development.

For good yields, plant cloves at 18cm (7in) each way, or 10cm x 25-30cm (4in x 10-12in).

What do you get?

You may have wondered why the crop that your garlic produces is so variable. The size of bulb is governed, to some extent, not only by the size of the clove you plant, but also by the size of the bulb the clove came from.

Larger cloves will give larger bulbs – but the very largest cloves are said not to be as reliable as the medium to large ones.

A medium sized parent bulb seems to be the best bet. Its size is more critical for hard necked garlic, and a bulb of 6cm (2.5in) in diameter is said to be ideal.

Going to seed?

Ophioscorodon garlic varieties will always produce a stiff stem, which looks like a flower stalk. It may or may not form loose curls or tight coils as it emerges, giving an unusual twist to the look of the vegetable garden. The stems will straighten up once the

garlic cloves begin to swell.

Sativum garlic varieties rarely produce a stem, and then only in response unusual weather conditions. You will still get a crop if you let the flower stems grow, but cutting them off once they reach 10-15cm (4-6in) will increase yield.

Garlic flower stems produce neither flowers nor seed. Instead tiny bulbils appear – either at the top of the stem or, sometimes, out of the side of the stem a few inches above the bulb. All in all it makes for a fairly wacky appearance. The bulbils can be planted. They will tend to produce a single, undivided, bulb in the first year. Replant this and you will get a proper divided bulb. Single cloved bulbs, known as rounds, may also develop if the plants have not had a sufficiently long cold period.

Harvest and storage

Dig up garlic when half the leaves on each plant have turned brown, but some are still green. Leave it later and the outer wrapper is likely to split. Lift carefully on a dry day and put in a warm, dry spot to cure. Shade from strong sunshine if you want to avoid 'greening' on the cloves, but it does not affect eating quality. After a

couple of weeks, trim the roots then store in nets or old tights or make into strings or bunches. Hang in a cool, dry place where air can circulate 2-4C (36-39F) is ideal. Garlic is delicious eaten fresh, but it will also store well. The stiff necked garlics should keep until Christmas; other garlic may store in good condition for eight months.

Pests and diseases

Despite its insecticidal and bactericidal properties, garlic is susceptible to some diseases. The commonest problems in the UK are white rot and rust. If the tips of garlic leaves turn pale or brown in early summer, however, the reason is most likely to be frost earlier in the year, rather than disease or soil deficiency.

Rust

Garlic rust has been very common this season – probably because many parts of the country suffered from low light and high humidity levels. It is an easy disease to diagnose. The leaves become covered with rusty, red, elongated spots. Heavily infected leaves will yellow and die.

Once the disease is present there is little you can do about it. It will not affect the quality of the bulbs. To reduce the risk of future infections, use a crop rotation. Stressed plants are more susceptible, so try to make sure they don't dry out or sit in wet soil. Rust, like all diseases, is more likely on soils that are too rich in nitrogen, and low in potassium.

Garlic rust is caused by the same organism that causes onion, chive and leek rust – *Puccinia allii*, also called *Puccinia porri* – but opinions vary as to whether the strain that infects leeks is the same as that on garlic.

White rot

White rot is the most devastating disease of garlic. The first symptoms are browning of the leaves. The tops may fall over, or come away from the bulb when tugged, if the infection has started at the top of the bulb. When



dug up, the cloves may be rotting, and there will be a white mould with tiny black poppy seed-like sclerotia in it. This disease, which infects all members of the onion family, can last for up to 100 years in the soil in the absence of a host crop, but using a long rotation (eight years or so) should allow you to produce a crop.

Garlic is very susceptible to white rot, which is perhaps why gardeners regularly report that they have introduced white rot on garlic bought for planting. It is very unlikely that white rot would be carried on



White rot: the most devastating garlic disease.

planting cloves – it is simply that garlic is showing up the presence of the disease in the soil.

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For more information on white rot send an sae to the Information and Education Department requesting fact sheet DC 16 or look on our website www.hdra.org.uk

Suppliers of garlic for planting

The Organic Gardening Catalogue www.organiccatalog.com

Jennifer Birch, Supplier of Seed Garlic, Garfield Villa, Belle Vue Road, Stroud, Glos Certified planting stock from France; some organic stock.

The Garlic Seedstock Company, Roadside Farm, The Clays, Brant Broughton, Lincs LN5 0RW www.garlicworld.co.uk

The Garlic Farm, Newchurch, Isle of Wight PO36 0NR (some organic stock) www.thegarlicfarm.co.uk