



Traditionally the husks were used to produce a brown dye

We're used to seeing walnuts in the shops in autumn, but they are not home-grown. They are imported mostly from California, China and the EU. That may change in the future, as the walnut is undergoing a renaissance and there has been an upturn in interest in growing this nut. This has been helped by falling topfruit prices and an increasing demand for nuts in the diet.

The walnut is an extremely nutritious nut, being packed with nutrients. They're one of the few plant foods with high omega-3 and they are known to help brain function and to protect against heart disease by reducing cholesterol. In France, walnuts are an important food, as they help to combat the effects of eating a high-fat diet.

Walnut biology

A non-native tree species, the walnut (*Juglans regia*) was introduced to Britain by the Romans. The trees are wind-pollinated, with male catkins and female flowers found on the same tree. Large quantities of pollen are shed to fertilise the small female flowers. Nutlets form by late spring and enlarge over summer. The nuts can be picked for pickling when small and green in June, or left on the tree until autumn. Textbooks say walnuts are self-fertile, but self-fertilisation requires the male catkin to shed its pollen just as the female flower opens and is receptive to the pollen. Often this is not the case, with the catkins opening first, therefore, some cross-pollination is necessary. This is achieved by growing a mix of varieties. Pollen can drift some distance downwind, so pollen from local trees may assist in pollination.

Walnuts are relatively disease-free, although some producers have experienced problems with walnut blight caused by *Xanthomonas campestris*. Some varieties are more resistant than others, Broadview for example. The trees can be susceptible to codling moth. Squirrels, too, can be a problem!

Grafted or seedling?

Walnut trees are expensive and often buyers are tempted by cheaper trees grown from seed. Like fruit trees, grafted trees are recommended as they are generally hardier, more robust and reliable than seedling trees. The seedling trees can take a decade to first bear fruit and a surprising number never do. Often the nuts are small and of lower commercial value. In contrast, a grafted tree with greater vigour can produce its first nuts within three to four years. Another benefit is the timing of the trees' coming into leaf; a grafted tree tends to break bud later in the season, so there is less risk of frost damage.

Varietal choice

There is a wide range of varieties available. Some varieties are terminal bearers, that is, they bear fruits on the tips of shoots, while others bear fruit on the lateral shoots. The variety should be selected according to your site, market needs and disease resistance. Alexander Hunt recommends three varieties for organic growers:

▶ **Broadview** A Canadian variety that has been grown in the UK for a while. It's a compact and slow-growing variety that is heavy-cropping. It produces an elongated, pointed nut in three to four years. One of the earliest and best all-round fruiting cultivars.

▶ **Franquette** A traditional French variety that's late-leaving, with good productivity and resistance to blight and codling moth. Partly self-fertile, it bears fruit at three to five years. The nuts are of excellent quality. Yields are fair compared with modern lateral-bearing varieties such as Lara. Little pruning is required.

▶ **Lara** Another French variety that produces good-quality, thin-shelled nuts on lateral shoots. The tree has a compact, upright habit. It's a highly productive cultivar of average vigour.

▶ Two other varieties to consider are **Mars** and **Saturn**.

Cultivation

Most trees are supplied as bare-rooted two- or three-year old stock, up to 1.5 metres in height. Walnuts can be grown on a wide variety of soils, but they perform best on deep, fertile soils. The soil should be free-draining and not too light, so it doesn't dry out in summer. Avoid compacted soils, areas that are prone to waterlogging, frost pockets and steep slopes. The trees are pit-planted from November to February. Dig a hole large enough to accommodate the roots, backfill with soil and mulch with compost. The trees need little management for the first six years or so. They need adequate water in summer and weed control, which can be achieved by adding a compost mulch around the base of the tree in spring.

Walnuts have a wide and spreading crown and can grow up to 25 metres in height. The planting distance ranges from seven to 12 metres to give the trees space for crown development. A commercial planting pattern of 7x7 metres will give 200 trees per hectare. However, in a closely planted orchard, the trees can become crowded and pruning is necessary to avoid a fall in yield.

Alexander Hunt is trialling a hedgerow planting system, often used in the USA, in which the trees are planted in rows, allowing

for mechanical pruning. In this system, the yield can be higher than an orchard.

Costings

Planting a walnut orchard is not cheap. Alexander Hunt gives a figure of around £8,000 per hectare, with the first decent crop achieved after eight years. Yield at ten years is between three and five tonnes per hectare, depending on density of planting and variety used. Once the orchard is in full production, growers can expect to earn in excess of £4,500 per hectare. Most walnuts are sold either in their shells or shelled, but another option is walnut oil. The purchase of an oil-extraction press would give the ability to cold press on farm, with yields of about 500 mls per kilogramme of kernels. The oil is expensive, getting upwards of £50 a litre. [G](#)

Sally Morgan edits *Organic Farming* magazine. With thanks to **Alexander Hunt** of Potash Farm for his help. Alexander grows cobnuts and walnuts on 20 acres near Sevenoaks, Kent. He can be reached on **01732 882734** or via www.walnuttrees.co.uk He is a keynote speaker at the Agroforestry Conference

Sharpham Park

Twelve years ago, Roger Saul of Sharpham Park planted 200 walnut trees near Glastonbury. The first harvest took place in 2016. The organic nut orchard is currently yielding around 400 kg but this is expected to rise to five tonnes or more when mature. The harvest takes place in autumn, when the trees are shaken, just as with apples. The husks are removed, the nuts washed and dried for 24 hours to bring the moisture down by 20 per cent, then air-dried for up to four weeks to complete the process.

Walnut production

In recent years, interest in growing nuts has increased. **Sally Morgan** looks at establishing a walnut orchard

A nutritious nut that's rich in omega-3