

Growing Walnut trees with climate change in mind

Diminishing supplies of tropical hardwoods, ethical concerns about importing them, and a shortage of a dark coloured home-grown timber for fine furniture making and gunstocks have helped to push the prices of Walnut (*Juglans regia*) timber and veneer to high levels. Alexander Hunt, of "Kentish Cobnuts", recently acquired The Walnut Tree Company (WTC) with the aim of bringing together two businesses that could improve English nut growers' influence in the market and help to displace some of the imported timber and nuts.

Walnuts for nut production

While all Walnut trees will produce both timber and nuts, achieving both from the same trees involves compromises. For nuts, recognised varieties are usually raised, entailing grafting. The WTC currently recommends six French varieties, including Franquette. Grafting Walnuts is particularly difficult and consequently expensive. Growing for both timber



Gabriel Hemery and Jo Clark in a Walnut plantation in the National Forest during the 2009 Woodland Heritage Field Weekend.

and nuts generally means producing short butt lengths of, say, eight feet (2.5 m) but at maturity this is still perfect for furniture making. The graft junction of nut-producing trees often produces burrs, especially if the rootstock is Black Walnut (*Juglans nigra*). These can be valuable for veneer, and a bonus to growers when they eventually fell an orchard. Planting nut-bearing trees in "hedgerows" is said to yield an impressive 7t/ha/year. Shelled Walnut halves can fetch up to £12/kg wholesale.

Health-conscious consumers are said to be the cause of the nut market rising by 7% annually.

Walnut for timber production

There has been a recent increased interest in growing Walnut for timber. Karen Russell of Lockhart Garratt says that *"Well over 100 ha of Walnut have been planted in the last decade which is more than in the previous ten years."* She, while working at East Malling Research, in collaboration with Gabriel Hemery (then of the Northmoor Trust) was involved in establishing the Jaguar Cars Walnut tree project in the National Forest which has pioneered the biggest single British plantation for many years. Jaguar's ultimate aim is to substitute Italian and American Walnut trim with highly decorative English-grown veneer.

Unlike nut production, Walnuts grown for timber should be raised from seed, ideally collected from trees of good form, such as those that the Northmoor



A five-year-old hybrid Walnut tree growing at Little Wittenham, Oxfordshire, in mixture with Elaeagnus and Italian Alder.

Trust and British and Irish Hardwoods Improvement Programme (BIHIP) will eventually be producing when their seed orchards are a bit older.

European Walnut is a tree that will benefit from a warmer climate than currently experienced in most of Britain. The South East of England offers some of the best growing conditions and with climate change they are likely to improve. However, throughout its range, Walnut has the reputation of being difficult to establish, prone to frost damage and often of poor form. By combining good site selection, plant material from breeding programmes and proper silviculture, this is changing.

Trees for timber are normally sold as one or two-year old bare rooted stock. They can be difficult to transplant successfully but success at a fraction of the cost can often be achieved by sowing a seed inside a tree shelter at each planting spot. In no species is proper silviculture more important for well formed trees. Pruning is normally essential.

Walnut can be one of the most economically attractive trees. British planking grade Walnut wood is said to fetch up to £900/m³ and veneer up to £2,700/m³. Walnut trees need to be planted widely. Research at the Northmoor Trust has shown that where nurses are established between Walnuts, they can generate limited additional revenue, and significantly improve Walnut form.



A Walnut plantation in Greece. Pruning young Walnut trees is essential if high quality timber is to be obtained.

However, to achieve a good length of straight and branch free stem, as well as rapid early growth, planting with a nurse of the nitrogen fixing autumn olive (*Elaeagnus umbellata*) has been found to be very effective.

Typical rotation lengths for British timber crops are around 80 years, depending on the growing system, but hybrids might achieve this in 55 to 60 years if early performance is maintained. In general, the bigger the dimensions and consequently the longer the rotation, the more profitable the trees. 



A direct seeded Walnut - these trees were taller than planted two-year-old seedlings, two years after sowing.



The WTC is one of very few suppliers of high quality Walnut seedlings and advice for the garden, orchard, forest and amenity/landscape use.

Besides normal seedlings, the WTC can also supply two types of hybrids from French breeding programmes. Both have good form and excellent vigour: NG 23 hybrids: *Juglans nigra* x *J. regia* (Black Walnut x Common Walnut) and MJ209 hybrids: *J. major* x *J. regia* (Arizona Walnut x Common Walnut). A good variety for northern European conditions is *J. regia* 'Lozeronne'. It is vigorous, late flushing and has reasonable form. *Juglans nigra* (the American Black Walnut) seedlings are also available.

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