

Tree Species No. TTS12

Juglans regia, Family *Juglandaceae*

The common walnut is a slow growing medium to large deciduous tree with smooth grey bark that becomes grooved with age. The leaves have a strong scent and open very late, they are between 20 and 30cm long. It is unsuitable for establishment near members of the family Ericaceae, the genus Pontentilla, apples and white pines because the roots of the walnut tree produce a substance that is harmful to these plants.

Common names: English walnut, common walnut, carpathian walnut, persian walnut.

Distribution: It is native to south-east Asia, south-east Europe, the Himalayas and China, but has been introduced to much of Europe and the United States.

Ecology

Rainfall: 600-800mm with dry summers.

Temperature: Typical of temperate climates. Usually 3-27°C, but temperature as low as -35°F can be tolerated, with only minor injury, when the tree is fully dormant but will tolerate temperatures as low as -10°F when active.

Altitude: 400-800m, but may grow at altitudes of 3300m.

Soil type: Prefers deep fertile soils that are slightly acidic-neutral (pH of 6-7).

Botany

Height: 27-30m.

Diameter at breast height: The oldest trees can have a girth of between 3.5-6.5m.

Crown: It has a round head and a broad spreading crown.

Flowers: The male flowers open late in spring and are borne in large, drooping 5-10cm catkins. The female catkins are on the same tree but are small, green and upright. The trees are self fertile but the male and female flowers mature at different times so self pollination is rare. The appearance of the flowers is dependant on the conditions during the previous summer.

Fruit: These are oval, glossy green fruits that fall away to reveal a hard shell which encloses the wrinkled yellow kernel.

Uses

Main: The valuable wood is used in the manufacture of cabinets and gun stocks but it is also planted as an ornamental tree, along avenues, and for the nutritious edible nuts.

Other: The fruits can be made into a pickle when soft and unripe, and a salad oil can be produced from the walnut cotyledons.

Cultural instructions

Seeds: Usually pollinated by wind. There are 60-110 seeds/kg and they are enclosed in a hard shell. To store the seeds remove the husks and cover in layers of moist sand at 5°C. Alternatively, bury in a pit and cover with dry earth until the planting season.

Pre-treatment: Soak the seeds in water for a few days before planting.

Germination: The germination rate can be as high as 70% if conditions are good. Dormancy is broken by temperatures of 5-6°C.

Nursery: Sow during the winter in beds and transplant in the spring. Do not delay planting out because of deep taproot development.

Planting out: The common walnut is usually grown from seed or by grafting. Plant out by making a small hole in the ground deep enough to allow the roots to lie straight or sow in shallow trenches. Plant during the dormant season in deep, well drained but moist, fertile, slightly alkaline soils.

Spacing: 3x6m.

Management: Prune if necessary in late summer/early autumn when in full leaf, or when completely dormant otherwise the wounds will bleed excessively. Protect from rodents. The walnut has a high nitrogen requirement, however it should only be fertilised in spring or growth may be encouraged into the winter when temperatures will be too cold and may cause injury.

Other

Pest and diseases: *Gnominia leptostyla* (leaf blotch) can cause loss of leaves. Small dark spots will appear on the leaves and will grow to become yellow blotches on the upper surfaces and grey below. *Xanthomonas juglandis* (bacterial leaf blight) may effect nursery stock causing black spots to appear on the leaves. These can be controlled to some extent by burning infected leaves.

Limitations: It does not grow well in exposed sites.

Produced by the Tropical Advisory Service, December 2002

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