



# Walnuts

## About Walnuts

Common walnut is called the English or Persian walnut (*Juglans regia*). Trees are large, deciduous, 20 to 30 m tall, spreading, and not dense. Walnuts produce both male and female flowers, but at different times. Flowers form on previous year's growth. Walnuts are wind pollinated. Bud burst is in the spring and pollen is released 10 to 12 days afterwards. Full bloom of female flowers is 15 to 18 days later. Nut maturity is in the Fall. Common varieties include Franquette, Hartley, Sunland, and Chandler.



## Climate and soil

Temperature	Frost tolerance	Water needs	Tolerance to water logging	Drought tolerance
Cool to warm temperate climates	Late spring frosts, below -1°C, can damage flowers, new shoots and young trees	At least 760 mm of rain. Irrigation is beneficial	Damaged by high water table, need a least 3 m of drainage	Moderate

Humidity tolerance	Wind tolerance	Soil needs	Nutrient requirements
Dislikes cool, wet weather in spring	Grows slowly in persistent wind, susceptible to limb breakage	Likes deep fertile soils	Moderate amounts of N and K, small amounts of P. maintain pH above 5.8

## Cultural practices

<b>Propagation</b>	Normally grafted
<b>Rootstocks</b>	Seedling of American black walnut and a hybrid called Paradox
<b>Spacing</b>	Traditionally 12 to 18 m – now 9 m
<b>Training and Pruning</b>	Central leader systems
<b>Thinning</b>	Not required
<b>Tillage and orchard care</b>	Clean cultivated and level ground
<b>Time to 1<sup>st</sup> harvest</b>	4 to 5 years
<b>Time to full production</b>	10 to 20 years
<b>Normal productive life</b>	50 to 100 years
<b>Expected yields</b>	Good soils and cultivars, initially planted in double spacing: 4 years: 1 ton/hectare 8 years: 4 ton/hectare 12 years: 5 ton/hectare
<b>Harvest</b>	Hand or machine (Shake and then sweep)
<b>Storage</b>	Remove nuts from husks and keep in dry, airy, vermin-proof bins
<b>Pests and diseases</b>	Bacterial blight. Less severe: codling moth, navel orange worm, aphids, scale, huskfly

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**Primary reference:** Jackson, D.I. and Looney, N.E. 1999. Temperate and Subtropical Fruit Production. 2nd Ed. CABI Publishing. Wallingford (United Kingdom)

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