

Plant Pears for Your Heirs

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Pear trees are renowned for their hardy constitution and longevity. The 1957 edition of *Brunnings Australian Gardener* notes that a Winter Nelis dessert pear planted in Melbourne in 1851 was still bearing bountiful crops of fruit at ninety-seven years of age! Gardening texts of the era encourage gardeners to 'Plant pears for your heirs'.

Pears have a long history of cultivation. In Roman times they were a well recognised orchard tree with numerous named varieties already in cultivation.

Little appears to have changed over centuries of pear production with heirloom varieties still the norm in commercial orchards today.

The longevity and continued productivity of pear trees presents today's commercial pear producers with a challenge. How can pear production be made more viable? Why discard trees that can continue to bear prolifically for generations to trial new, less proven selections or techniques?

How can old varieties with their short, post ripening shelf life be made appealing to a new generation of consumers and retailers?

Are European pears destined go the way of other soft, ripe fruit - cradled in overpackaging or disregarded as too difficult to handle and replaced by less flavoursome, but more transport friendly relatives like the nashi? Are home grown varieties grafted on to dwarfing rootstocks the answer or will new varieties and intensive pear production ignite a new passion for pears.



Quick Fact File

Botanical Name: *Pyrus communis*

Common Name: European pear

Family: Rosaceae

Origin: Temperate Europe and Western Asia

Climatic Range: The majority of pear varieties grow best in cool temperate and temperate regions including areas with heavy frost and snow. Low chill varieties are adapted to culture in warm temperate and subtropical regions.

Description: Pears are hardy, tall growing, long lived deciduous trees with an upright or pyramid growth habit. Trees can reach more than 15m in height.

Leaves are shiny, deep green, rounded to heart-shaped and develop spectacular colours during autumn. Spring blossoms are delicately fragrant and followed by summer and autumn ripening fruit clusters that may be pear-shaped, rounded, conical or oval with brown, golden, russeted, pale green, yellow, or red flushed skin.



Basic Pear Culture

Regions that can successfully grow apples are also generally suitable for pears and the culture of the two crops is remarkably similar.

Pears prefer deep fertile, well drained soil. They are not any more demanding when it comes to nutrition, than most fruit crops. Commercial growers and home gardeners can satisfy the nutritional needs of pear trees with a combination of compost, decomposed animal manure, liquid seaweed, rockdust and/or commercial organic fertilisers applied during times of the year when trees are actively growing.

When to Plant

Pears are generally planted during winter as bare rooted specimens. In a traditional orchard layout trees are planted six metres apart with six metres between rows. New intensive production systems tend to plant trees at much closer intervals, in some cases more than tripling the number of trees traditionally planted per hectare.



Pears like warm summers and cool winters with most varieties requiring significant chilling to facilitate good bud formation and fruit set.
Chilling Requirement explanation

Trees produce vigorous growth during summer, develop colourful foliage during autumn, drop all foliage during winter and bear delicate spring blossoms.

Perfect Pearing

Most pears benefit from cross pollination. Two compatible varieties are generally selected. It is possible to graft two or more compatible varieties on to the one tree and home gardeners should look at this option. On occasions, some mature single trees including the Williams variety will produce an adequate harvest for home gardeners.

Like apples and other pome fruits, pears bear repeat flowers and fruit on long lived spurs that are produced on branches in their second or successive years of growth. The white spring blossom is delicately perfumed and bees facilitate pollination. Commercial growers often import hives to maximize their potential harvest. Be patient. It is not unusual for trees to take three to six or more years to bear fruit.

Rootstock Options

Most commercial pears have been traditionally grafted on to the vigorous *Pyrus calleryana* rootstock. It is possible to achieve trees that grow to a little over two metres high by grafting them on to a quince rootstock. Unfortunately, quince rootstocks are not compatible with some of the more popular pear varieties.

To achieve dwarf pear trees it has therefore been common practice to employ a double grafting technique. The quince rootstock that dwarfs the size of the tree is grafted with a compatible, intermediary pear species. This is then regrafted with the desirable fruiting cultivar. Double grafting overcomes a common problem of incompatibility between the quince rootstock and the fruiting cultivar, but is generally regarded as too expensive an option for commercial growers.

Double grafting is a more viable option for home gardeners, particularly where two or more compatible varieties are top grafted. This increases the diversity of pear types that can be grown on the one plants and spreads the period over which the pears can be harvested.

Watering and Mulching

Supplementary watering at flowering, fruit set and fruit filling ensures optimum productivity. However, pear trees are remarkably hardy and their deep roots allow them to access soil moisture. Established trees in home gardens produce remarkably good fruit even with less than optimum soil moisture levels.

Keeping Growth in Check

Managing rampant pear growth requires some effort. Summer pruning involves removal of excessive vegetative growth. During winter any further wayward growth and any fruiting spurs that are excess to requirements can be pruned out.

Not Just Pretty But Practical

Pears have long, whip-like branches that adapt easily to espalier or fan shaped training. This practice is not just for ornamentation, but based on sound horticultural knowledge. Training upright branches along a horizontal plane as practiced in espalier overcomes the apical dominance naturally exerted by the terminal bud at the end of the branch. It encourages formation of fruiting spurs along the length of the horizontally trained branch. This results in significantly improved fruit production, a smaller more easily managed tree and fruit that is easier to harvest. In cool climates, trees are traditionally espaliered against north facing walls where they benefit from summer radiated heat.

Green Harvest

Pears go through a post harvest ripening period. This makes them ideal for home gardeners as it means that fruit can be picked prior to full ripening without jeopardising flavour and taste. Green fruit that is ready to pick snaps easily from the tree. Birds, possums and fruit bats love pears. Picking fruit prior to full ripening offers your best chance of beating animals to your harvest.



Ripe pears have a short shelf life, but unripe fruit can be stored under refrigeration for very long periods. Some varieties of commercially produced pears are stored for periods up to eight months after harvest. Pears are best stored in cool conditions, exposed to light in a manner that avoids individual contact between fruit. Victoria is the largest pear producer in Australia.

Williams' Bon Chretien (also known as Barlett or Duchess)

This very popular, early season, heirloom variety was around in Captain Cook's day. Trees show moderate vigour and a degree of self pollination, although it is commercially cross pollinated with Beurre Bosc, Beurre d'Anjou and Aurora. Fruit skin is yellow with some russet dots. Trees have a high chilling requirement and are best suited to cooler regions. Available grafted on to dwarfing rootstock. Some Williams selections are directly compatible with quince rootstock.

Packham's Triumph

This Australian bred, early to mid season heirloom variety is noted for its long keeping qualities, smooth, creamy flesh and clear yellow skin. Fruit often has characteristic bumps. Pollinators include Winter Cole, Winter Nelis and Josephine. Trees have a fairly high chilling requirement and are best suited to cooler regions.

Beurre Bosc (also known as Kaiser Alexandra)

With their characteristic russet brown skin and slender shape, this vigorous mid season heirloom Belgian variety is particularly popular for cooking as fruit holds its shape well. The flesh is sweet and juicy, but a little more gritty than other varieties. Pollinated by Williams, Comice and Eldorado, it has a high chilling requirements making it suited to cooler regions. Available grafted on to dwarfing quince rootstock.

Winter Cole

This Australian bred, late season heirloom variety is noted for its vigour. Fruit is small with some russetting, but good juice and flavour. Cross pollination is achieved with Williams and Beurre Bosc. It has a high chilling requirement and is best suited to cooler climates.

Winter Nelis

This late season, heirloom Belgium selection forms an upright tree. Fruit is small and russeted with cream flesh. Cross pollinates with Winter Cole, Williams and Beurre Bosc.

Josephine (also known as Josephine De Malines)

This late season heirloom Belgian variety forms a moderately vigorous tree and bears medium sized cream fleshed fruit with green russeted skin. Packham's Triumph is a good pollinator. It has a high chilling requirement and best suited to cooler regions.

Corella

This Australian variety grows into a moderately vigorous tree. The small, slightly squat, red skinned fruit is marketed as a gourmet late season variety. Established trees have some ability to self pollinate but commercially crossed with Red Face, San Giovanni, Ya Li and Tsu Li. It has a moderately low chilling requirement making it suitable for warmer regions.

Red Face

This Italian variety is a very early season, high yielding cocktail pear. Fruit is yellow green with a red blush and sweet cream flesh, but short storage life. Cross pollinates with San Giovanni and Corella. It has a high chilling requirement and is best suited to cooler climate.

San Giovanni

This Italian variety is a very early season, high yielding cocktail pear. Fruit is small with green/yellow skin and sweet, cream flesh but does not store well. Cross pollinates with Red Face and Corella. It has a high chilling requirement and is best suited to cooler climates.

Hood

Low chill variety (160–200 hrs) from America suitable for growing in warm temperate and subtropical regions. Tree is vigorous with some ability to self pollinate once well established, but also crosses with Flordahome. Fruit is large and oval with yellow green skin and cream flesh, but stores poorly.



Flordahome

Low chill variety (160–200 hrs) suitable for growing in warm temperate and subtropical regions. Vigorous, upright growth habit, with medium sized pale green fruit and well flavoured flesh. Fruit has short storage life. Cross pollinates with Hood.

Potential Pests

Pears are relatively pest and disease free, but two spotted mites, blossom blight, fire blight, scab.

Varieties grown today originate from selections made in England, Belgium, France

Pears can be eaten fresh, made into a cider-like drink called perry, poached, bottled, candied, made into chutney, pickled, frozen, dried or made into wine

Great taste and good for you

Fresh pears contain no saturated fat, cholesterol or sodium. Polyphenols found in pears are thought to actively reduce cholesterol and improve blood circulation. Some experts also believe that polyphenol rich foods may help to prevent some forms of cancer. Studies on organically grown crops including pears, indicate that they contain higher levels of polyphenols than conventionally grown crops.

Cooking Pears

Himalayan pears (*Pyrus pashia*) are large trees, with bright yellow autumn leaves, and extraordinarily hardy. Mostly they are grown as very very drought and cold and heat hardy ornamentals, but you can use the small hard pears like crab apples ie stew them to make a very good jelly- or just let them hang over winter so the birds enjoy them.

Perry Pears

Perry is a type of cider traditionally made from a very slow fruiting snow pears (*Pyrus nivalis*). Varieties of pears used to make perry contain a high quantity of tannins in the juice and the fruit flavour enhanced following extreme cold or snow. Perry pears known in Australia include Gin, Green Horse, Moorcroft and Yellow Huffcap.

Nashi Pear

The nashi, Chinese or Asian pear (*Pyrus pyrifolia*) is noted for its crisp texture and thirst quenching qualities but it lacks the sweet flavour of European pear varieties.

Intensive pear production is seen as a vital way to improve the efficiency of Australian pear production. This will become particularly important when older pear orchards start to decline in productivity and/or new pear varieties with a specific marketing advantage become commercially available.

Ornamental Pears

Several varieties of pears are much sought after ornamentals. *Pyrus* 'Chanticleer' is an upright tree that grows to around 7m high. It produces plum red/gold foliage in autumn, delicate white blossoms in spring and small russet gold fruit in summer.

Pyrus 'Capital' reaches a similar height, but is tall and narrow. Red/purple autumnal tones are followed by white flowers in spring and small brown russeted summer fruit.

Native Pear

The woody pear (*Xylomelum pyriforme*), is a small growing native tree reaching 5-8 metres in height and bears 8cm long spikes of small white flowers. The species name 'pyriform' means pear shaped and is a reference to the large woody pear shaped seed pod that forms following flowering. A member of the proteaceae family, the woody pear was one of the first native plants collected in the Sydney region by Banks and Solander and repatriated to England with other unique Australian flora on the Endeavour.



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