

## Plant Profile: Hardy Orange or Trifoliate Orange Tree

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*Poncirus trifoliata* 'Flying Dragon'

Family *Rutaceae*

Section 3

The *Poncirus trifoliata*, or Hardy Orange tree, is native to northern China and Korea, and is also known as a Japanese or Chinese bitter-orange tree. It was first introduced in the United States in 1823. The species is sometimes classified in the genus *Citrus*, but is generally classified as its own genus, *Poncirus*, because it is unusual among citrus for having deciduous, compound leaves, downy fruit and being a fairly cold-hardy tree, similar to the Satsuma mandarin or kumquat. The Hardy Orange tree will thrive in areas where winters with moderate frost and snowfall are common, such as the Ohio River valley. The *P. trifoliata* will grow to a large shrub or small tree, ranging from 6 feet to 25 feet in height.



The *P. trifoliata* is easily identifiable by the large thorns, ranging from 1-1/4 to 2 inches in length, on its shoots. The thorny branches grow in an impenetrable tangle, and is often trimmed as a hedge and is used as a barrier planting. The shiny deciduous leaves are arranged as large center leaf, 1-1/4 -2 inches in length, with two smaller side leaflets. The leaves are similar to other citrus trees in that when they are crushed, they give off a spicy smell. In the spring, the tree flowers with white five-petaled blossoms with pink stamens. The blossoms are about 1-1/2 inches in diameter. For most of the summer, the fruits are green, about the size of a lime, with a fuzzy outer texture similar to a peach. The fruit ripens to a yellow color in the fall when the leaves drop from the tree.

The fruit of the Hardy Orange is bitter, but may be consumed by people if made in marmalade or the zest is candied. It is a source for pectin, used in making jams and jellies. In Germany, the juice is stored and made into a tart flavoring syrup. The fruit is also used in East Asia medical traditions to treat allergic inflammation.

It is a common practice to graft citrus trees onto the root stock of the *P. trifoliata* because its hardiness improves the survival of other varieties of citrus in adverse weather conditions. The use of the *P. trifoliata* root as grafting stock began in 1869, when a seedless orange from Brazil was grafted onto the root stock, becoming the basis of the seedless navel orange industry in California. *P. trifoliata* is also resistant to citrus tristeza virus.

Commonly found cultivars found in the United States include

*Poncirus trifoliata* 'Rubidoux' – crossed with sweet orange *Citrus sinensis*, producing a fruit known as “citrangle.”

*Poncirus trifoliata* 'Flying Dragon' – dwarf selection, often trained as a bonsai tree because of its slow growth.

[https://en.wikipedia.org/wiki/Trifoliate\\_orange](https://en.wikipedia.org/wiki/Trifoliate_orange)

<https://www.uaex.edu/yard-garden/resource-library/plant-week/hardy-orange-2-9-07.aspx>

<http://www.southernedition.com/PoncirusTrifoliataFlyingDragon.html>