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The Very Hardy: The Ichang Papeda and Its Hybrids

Ichang Papeda Hybrids

Unlike hybrids between the trifoliolate orange and other citrus, Ichang papeda (*Citrus ichangensis*) hybrids tend to have a better balance of the two parents. When hybridized with more desirable citrus, fruit quality vastly improves. For example, the Yuzu, which is an Ichang papeda and mandarin (*Citrus reticulata*) cross, has a sour but not bitter fruit that makes a very acceptable lemon substitute. Second-generation hybrids have even better fruit, with some of the Yuzu hybrids producing fruit of tangerine quality with little loss of cold-hardiness. So there is hope yet for a hardy, tasty citrus hybrid.

A characteristic of nearly all hybrids involving *Citrus ichangensis* is the prevalence of large, pointed seeds. Nearly all of the hybrids have them, though not always in the quantity of the parent. A few other cold-hardy citrus (notably Keraji and Changsha mandarins) also have these large seeds, which indicates that they too may be a hybrid of some kind involving *Citrus ichangensis*.

Hybrids using *Citrus ichangensis* tend to be very hardy even into the second and third generation. Like the trifoliolate orange and its hybrids, *Citrus ichangensis* hybrids can still flower and fruit after being defoliated. One peculiarity of *Citrus ichangensis* and its hybrids is that they all seem to flower and fruit more freely if grafted onto the trifoliolate orange rather than grown on their own roots.

Ichang Papeda (*Citrus ichangensis*) is the most cold-hardy evergreen citrus, withstanding temperatures down to 0°F. In shape and character this species is much like the trifoliolate orange, and like the trifoliolate orange it produces a fruit that is essentially inedible. *Citrus ichangensis* has long, straight thorns. Its leaves are uniquely shaped, with a flared petiole base that is so wide that the leaf often appears to be a double leaf. The leaves have pointed “drip tips” that are typical of plants from high-rainfall areas. This wild species is grown only as a curiosity because its fruit is bumpy, dry, and filled with huge, thick seeds. The Ichang papeda is adapted to steep hillsides and prefers well-drained soil to thrive. Like the trifoliolate orange, *Citrus ichangensis* makes a handsome ornamental tree.

Flavor: Bitter lemon, some off-flavors, poor quality.

Uses: Hybridization, ornamental.

Ichang Lemon is an Ichang papeda crossed with a pummelo (*Citrus ichangensis* × *Citrus maxima*). It originated in China, where it is called Shangjuan, which means “fragrant ball.” This vigorous, spreading tree is very ornamental, resembling a grapefruit with large, wide leaves with a flared petiole. It produces clusters of large, bumpy, seedy, yellow grapefruit-like fruits, which can be used like lemons. The fruit are extremely juicy with each one producing as much as a half-cup of juice. When over-ripe, it tastes like a grapefruit and is quite edible with sugar. The Ichang lemon also is very hardy, enduring temperatures down to 10°F and below with no permanent damage as long as it is protected from wind.

Flavor: Sour grapefruit, some off-flavors, fair quality.

Uses: Dessert, cooking, juice.

Yuzu is an ancient, natural hybrid (*Citrus ichangensis* × *Citrus reticulata*) that originated in Japan, where it was often used as a rootstock for Satsuma. Yuzu produces a narrow, upright, thorny tree, similar to a trifoliolate orange. The fruit is yellow and the size of a medium-sized tangerine with a lemon-like taste and an easily-peeled but rough skin. It’s used in Japan like a lemon and the peel is used in spicy dishes. It’s very resistant to cold, and like many *Citrus ichangensis* hybrids, can go deciduous during cold spells with no loss to fruiting wood. When fully dormant it can tolerate temperatures as low as 10°F and perhaps lower.

Flavor: Sour lemon, some off-flavors, good to excellent quality.

Uses: Cooking, juice.

Note: Yuzu peel is edible, and the albedo is distinctly sweet, much like a kumquat.

Clementine-Yuzu hybrids were developed by Dr. John Brown, and are only one-quarter *Citrus ichangensis*, with the other three-quarters