

Taiwan Flowering Cherry (*Prunus campanulata*)

Propagation: Seeding or Cuttings?®

Christine J. McCoy

Chestnut Hill Tree Farm, Inc., Alachua, Florida 32615

INTRODUCTON

Chestnut Hill Tree Farm specializes in low-chilling-hour fruit and flowering trees for the Southern U.S.A. Florida has mild winters, with little cold weather. Historically fruit and flowering trees typically require long periods of chilling during the winter. The taxa available were not adapted to Florida because they did not accumulate their chilling-hour requirements, which are necessary for fruit and flower production. A chilling hour occurs when buds of a plant are exposed for 1 h to temperatures of 3 to 5 °C (37 to 41 °F) (about the temperature of a household refrigerator). Partial chilling hours can be accumulated at temperatures slightly above the range and down to but not below freezing. The lower the chilling hour requirement the quicker a tree can overcome dormancy requirements, "break bud" and have normal floral development.

Dr. Wayne Sherman, a Professor Emeritus at the University of Florida, was a low-chill stone and pome fruit breeder for more than 30 years. Through Dr. Sherman's breeding efforts for a low-chilling-hour edible cherry, he used the Taiwan flowering cherry (*Prunus campanulata*) in his breeding program. This has resulted in hybrids, which are lower chill requiring and need approximately 50 to 400 chilling hours. Requiring so few chilling hours allows the Taiwan flowering cherry hybrids to break dormancy and bloom in Zones 8A through 9B from the Coastal Carolinas to Texas. It is being trialed as far south as West Palm Beach and Ft. Myers, Florida. The Taiwan flowering cherry is a natural tree for the southern climate, since it is native to Taiwan, which has hot humid summers, similar to Florida. The Taiwan flowering cherry is a small deciduous tree with a height and width of 7.6 m (25 ft) and magenta-pink blooms. This makes it a valuable landscape tree for small spaces. At Chestnut Hill, other cherries have been trialed. *Prunus* 'Kanzan', *P.* 'Okame', and Yoshino cherry (*P. xyedoensis*) are taxa of cherry that require more chilling hours than normally occur in Florida. These taxa are more prone to bacterial leaf spot disease than Taiwan cherry. Chestnut Hill is evaluating selected trees of Taiwan flowering cherry seedlings for differences in flowering colors ranging from white to light pink and double flowers. Evaluation of trees with different chilling requirements is being done, and of trees with resistance to the diseases of the leaves.

PROPAGATION METHODS

The following describes our propagation systems at Chestnut Hill using seed and softwood cuttings.

Seed Propagation. At Chestnut Hill we collect seed 40 to 45 days from blooming. This is about April first in Alachua. The fruit is cleaned off the seed by rubbing across a screen. The seed is washed clean and surface dried in the shade. Seed is stored at 4 °C (40 °F). To stratify, seed is soaked in water overnight and placed into moist peat and stored at 7 °C (45 °F) until radicals appear, which is generally 2 to 4 months. The seed is then planted 1.3 cm (1/2 inch) deep in Anderson bottomless tree

bands. The tree-band trays are held up off the bed by PVC pipe laid down on the ground mat to give aeration and root pruning during growth.

Cutting Propagation. At Chestnut Hill we use green softwood cuttings, preferring the terminal tips. The cuttings are taken in April and trimmed to 10 to 20 cm (4 to 8 inch) in length. Three leaves are taken off the bottom and the cuttings are dipped into 1000 to 3000 ppm IBA. Cuttings are drenched with the recommended rate of Captan, after sticking in the 38-cell trays. The cuttings are misted only to keep the tips from wilting. In our propagation greenhouse rooting begins in approximately 2 to 4 weeks. Mist propagation should be reduced as soon as roots are about 2.5 to 5 cm (1 to 2 inch) in length. Bacterial leaf spot can occur on the cuttings if the mist is not reduced.

CONCLUSION

At Chestnut Hill Tree Farm our preferred methods of propagation of Taiwan flowering cherry are via seeding and cuttings, for different reasons.

Seed crops of Taiwan flowering cherry are uniform in growth habit and provide the most economical means of producing a tree. With seeds there is also the potential for selecting different floral characteristics and developing new cultivars. Seed sources are very important since seed are limited, and wildlife are attracted to the fruit, which makes critical timely seed collection.

Crops produced from cuttings of Taiwan flowering cherry also have uniform growth habits. The trees selected for their special characteristics must be reproduced asexually. These trees are also evaluated for their ease of propagation by cuttings. Propagation of selected trees allows availability of trees with specific traits of flower color and disease resistance. If the seed crop fails, you do not have to wait a full year until you can seed again. Asexual propagation can fill this need.

In conclusion, there is much potential in developing and utilizing Taiwan flowering cherry as new, spring-flowering trees for the deep Southern U.S.A. The species and cultivars can be propagated by many methods, which are used depending on production needs and market demand preferences.