

Yoshino and Beyond: Exploring the History and Diversity of Flowering Cherries in the U.S.A.

Margaret Pooler

USDA/ARS/U.S. National Arboretum, Floral and Nursery Plants Research Unit, 10300
Baltimore Ave., Bldg 010A, Beltsville, Maryland 20705 U.S.A.
Email: Margaret.Pooler@ars.usda.gov

The year 2012 marks the 100th anniversary of the planting of the historic flowering cherry trees around the Tidal Basin in Washington, D.C. These trees, a gift of friendship from Japan, have become synonymous with springtime in D.C. and have been the inspiration behind festivals, landscapes, artwork, and merchandise throughout the U.S.A. Given the popularity and notoriety of flowering cherries in the U.S.A. today, it is remarkable to think that they were almost unheard of in the U.S.A. just over a century ago.

Flowering cherries have been an important part of Japanese culture for at least a thousand years. The beauty and ephemeral nature of the blossoms is evident in historic and modern Japanese literature, art, language, and culture, as well as in landscapes. Flowering cherries were brought to the U.S.A. sometime in the mid-1800s, as evidenced by mention in several nursery catalogs from that time, but they were not well-known or widely grown. This status changed in the early 1900s when David Fairchild, head of the USDA's Office of Foreign Seed and Plant Introductions, helped introduce 30 taxa of cherry trees into the U.S.A. Fairchild also took a personal interest in flowering cherries, and planted over 100 trees on his property in Chevy Chase, Maryland. The beauty of these trees became well-known to local individuals and organizations, who decided to plant cherry trees in nearby towns, schools, and parks. Soon the first lady of the U.S.A., Helen Taft, was enamored by the trees, and, with assistance from David Fairchild and others in the USDA, made plans to beautify Potomac Park with mass plantings of flowering cherry trees.

The plans to plant cherry trees in Potomac Park reached the highest levels in the U.S. government, and in 1909, the U.S. Department of State received an offer from the city of Tokyo to donate 2,000 trees as a gesture of friendship between the two cities. This shipment arrived in Washington, D.C. in early 1910 and was inspected by entomologists and pathologists from the USDA to ensure that the trees didn't harbor disease or insect pests that could pose a threat to U.S.A. agriculture. Unfortunately, a number of potentially damaging insects and pathogens were discovered that necessitated destroying the entire shipment of plants. Undeterred by this setback, the City of Tokyo prepared a second shipment, this time taking careful measures to ensure that the plants were disease-free. In 1912, a second shipment of 6,000 trees (3,000 for Washington, D.C. and 3,000 for Central Park in New York City) arrived in the U.S.A. where they passed inspection. First Lady Taft and the wife of the Japanese Ambassador, Viscountess Chinda, planted the first two trees on 28 March 1912 (Jefferson and Fusonie, 1977).

Since that historic planting, flowering cherries have become popular plants for street, commercial, and residential landscapes in the U.S.A. Over one million plants

are sold wholesale each year at a value of more than \$22 million [United States Department of Agriculture (USDA), 2001]. Despite the large number of *Prunus* species with diverse origins and ornamental traits, the most widely cultivated flowering cherry trees planted in the U.S.A. represent only a few species, primarily *P. serrulata*, *P. subhirtella*, and *P. ×yedoensis*. The United States National Arboretum (USNA) has an ongoing breeding program aimed at broadening this base by developing new cultivars of ornamental cherry with disease and pest resistance, tolerance to environmental stresses, and superior ornamental characteristics. This breeding program began in the 1980s and includes a diverse ornamental *Prunus* germplasm collection, consisting of over 1500 trees representing at least 30 diverse taxa. Many of these taxa were collected by Roland Jefferson in Japan, Korea, and Taiwan in the 1980s.

Flowering cherries are most recognized and appreciated in the spring during their spectacular but relatively short-lived bloom period. However, traits available from other species could be used to develop trees that have year-round interest or that can broaden the use of these plants in the landscape. Traits such as ornamental bark, plant size and architecture (shrubby, columnar, weeping), flower color (white to deep rose), and fall color can be combined using traditional breeding to create novel combinations of desired traits. In addition, tolerance to biotic and abiotic stresses such as wet soils, cold climates, and diseases and pests, can also be bred into new cultivars.

Breeding of many woody ornamental crops is often difficult because of the lack of previous research in the area. Because flowering cherries share the genus with several economically important edible species (for example, peaches, plums, and cherries), many breeding and research tools are available that might otherwise take years to develop. For example, molecular markers developed for peach and cherries can be readily applied to ornamental *Prunus* taxa to determine genetic diversity or verify parentage (Ma et al., 2009). Tissue culture technologies for propagation or biotechnology (Scorza et al., 1995) can also be modified for use in ornamental taxa. Rootstocks developed for specific purposes such as dwarfing or tolerance to pests or stress, may also be useful for ornamental taxa. Even cultural information such as orchard management and grafting may be applicable to production of flowering cherries (Westwood, 1988).

Two flowering cherry cultivars have been introduced by the breeding program at the National Arboretum. *Prunus* 'Dream Catcher' (Fig. 1), released in 1999, is an open-pollinated seedling from *P.* 'Okame'. It has an upright vase-shaped habit (Fig. 1) with large single clear pink flowers. It blooms approximately a week after 'Okame'. *Prunus* 'First Lady' is a backcross of *P.* 'Okame' with *P. campanulata* and is best recognized for its deep pink blossoms and upright, almost columnar habit (Fig. 1). It was released in 2004. 'Dream Catcher' can be readily propagated from softwood or semi-hardwood cuttings under mist using 1,000–3,000 ppm IBA in talc. Propagation of 'First Lady' is usually done by budding or grafting, although softwood cuttings from juvenile plants will root occasionally. Propagation from mature plants is challenging.



Figure 1. *Prunus* 'Dream Catcher' (left) and 'First Lady' (right, photo supplied by Phil Normandy, Brookside Gardens).

LITERATURE CITED

- Jefferson, R.M., and A.E. Fusonie.** 1977. The Japanese flowering cherry trees of Washington, D.C. U.S. Department of Agriculture, Agricultural Research Service, National Arboretum Contribution Vol. 4, Washington, D.C.
- Ma, H., R. Olsen, M. Kramer, and M. Pooler.** 2009. Evaluation of flowering cherry species, hybrids, and cultivars using simple sequence repeat markers. *J. Amer. Soc. Hort. Sci.* 134:435–444.
- Scorza, R., F.A. Hammerschlag, T.W. Zimmerman, and J.M. Cordts.** 1995. Genetic transformation in *Prunus persica* (peach) and *Prunus domestica* (plum). *Biotechnol. Agric. For.* 34:255–268.
- U.S. Department of Agriculture (USDA), National Agricultural Statistics Service (NASS).** 2001. 1998 census of horticultural specialties, <http://www.agcensus.usda.gov/Publications/1997/Horticulture_Specialties/table13.pdf>, accessed 3 Nov. 2011.
- Westwood, M.N.** 1988. Temperate-zone pomology. Timber Press, Portland, Oregon.