nanking cherries

Nanking cherries (*Prunus tomentosa*) are shrubs that grow from three feet up to ten feet tall with twigs that usually occupy an area twice as wide as the plant is tall. Up to 20 canes can grow out of one crown, but the plants do not sucker, nor do they spread aggressively. In milder climates, plants can live as long as 60 years, but in Minnesota they appear to live between 15 and 20 years.

The plants bloom very early in the spring, with large, pink buds that turn into white or pink blossoms. The blossoms are resistant to light frost. In early to mid-July the shrubs produce small, red, round to oblong cherries, formed as single fruit on short stems (Figure 31). Nanking cherries are closely related to both the sweet cherry and the sour cherry. Although related to plums, the fruit lacks the thick, sour skin of plums, and the seeds are round. The fruit have very short stems that usually detach from the fruit during picking. Fruit size varies from ¼ to ½ inch in diameter, and there are many reports of cultivars with fruit up to 1 inch in diameter.

Nanking bush cherries are from eastern Asia, with a range from Mongolia to Kashmir in India. They have been called numerous names, including Manchu cherry, Mongolian cherry, downy cherry, and Chinese bush cherry. The term "Nanking cherry" appears to have taken hold after they were heavily promoted in the 1970s. Like all plants with a widespread natural range, Nanking cherries from different areas have different traits. In the U.S. some of the plants come from seeds collected in northeast China near Beijing, which has a milder climate than Minnesota, and most Nanking cherries grown in the Upper Midwest have marginal winter hardiness.

In Minnesota, Nanking cherries are typically planted along fence lines, hedge rows, and as part of conservation plantings. Currently almost all Nanking cherries are propagated by seeds, which results in shrubs that show a great deal of variability in fruit quality, yield and winter hardiness.

Figure 31. *Nanking cherries*

HISTORY

Nanking bush cherries were first introduced to the U.S. from China at the end of the 19th century. At the time many settlers were moving to the Great Plains, and there was a great deal of interest in developing hardy fruits that could survive the cold winters and periodic droughts of the northern plains. By 1935, Nanking cherries were being promoted as "the crop of the future." Several cultivars were developed in the early 20th century, including selections from the University of Minnesota, but those cultivars disappeared by the late 1950s. Interest in Nanking cherries surged again during the Back to the Land movement in the 1970s, and nurseries once again touted them as "the crop of the future."[44] Markets never developed, and interest in Nanking cherries quickly tapered off by the 1980s. Later the crop settled into a niche of being used for conservation plantings and windbreaks.

USES AND HEALTH BENEFITS

Nanking cherries are best eaten fresh off the shrub. Eating quality ranges from decent to very good, and there are rarely plants with fruit too sour for eating fresh. Nanking cherries ripen shortly after strawberries and are a welcome treat in early summer. Nanking cherries can be processed into pies or jam, but they are too small for most mechanical pitting machines. There are a number of reports of people making good wine out of Nanking cherries, and presumably good fresh juice as well.

Nanking cherries are an excellent source of Vitamin C, and likely have similar phytonutrients to pie cherries.

[44] Sando, L. 1935. Edible fruits from Minnesota wild and cultivated plants. *Minnesota Horticulturist*.

PROPAGATION AND PLANTING

Nanking cherry branches growing next to the ground will often sprout roots, which is a natural type of layering. Plants with desirable traits can be propagated with softwood cuttings or grafted onto numerous suitable rootstocks. In the U.S., Nanking cherries are almost always propagated from seeds. According to one source seedlings form a large taproot, while plants propagated by layering form shallow roots. Plants with desirable fruit quality can be grafted. Although compatible with a number of cherry species, the most desirable rootstock appears to be Nanking cherry seedlings.

Nanking cherries are drought tolerant, and can be grown in a variety of well-drained soils. Heavier soils in low spots are not recommended. Most plants are self-sterile, and two or three different strains are usually required for adequate pollination.

Shrubs are typically sold as seedlings up to three feet tall. They should be planted about five to six feet apart for a hedge and further apart for individual shrubs. Once established, the plants send out many rapidly growing canes and can crowd out most weeds next to the crown.

Nanking cherries frequently receive little or no care. For reliable fruit production, the canes need to be regularly pruned. Nanking cherries should be pruned before bloom, and since they are one of the first shrubs to bloom in the spring, they should be pruned in late March or early April. Dead canes as in Figure 32 can be removed any time of year. Growers should keep about ten healthy canes per plant to maximize fruit quality.

PRODUCTION PROBLEMS

Nanking cherries are usually promoted as being hardy to Zones 2 or 3. The hardiness of the flower buds is closer to Zone 4. Like all stone fruit, flower buds are the most susceptible part of the plant to winter injury. Branches with moderate winter injury will leaf out normally with no blossoms. Because Nanking cherries are primarily propagated by seed, the level of winter injury always varies from plant to plant within a row. The unacceptable levels of winter injury in 2013 may be due to an improper seed source going back many generations. Growers interested in growing Nanking cherries for fruit should consider looking for seedlings with an origin of northeast China or Mongolia.

Nanking cherries have surprisingly few disease or insect problems. Deer appear to avoid Nanking cherries. They acquire few leaf diseases. Unlike plums and sand cherries, the disease brown rot has not been observed in Nanking cherries.
Birds love Nanking cherries, and growers should prepare to protect their plants against birds. Birds also spread seeds, and Nanking cherries can become a weed in areas near the patch where birds often perch.

Note from Thaddeus:

For over a decade, I have observed Nanking cherries in many parts of central and northern Minnesota. About a third of the time plants show some winter injury. The most common type of winter injury occurs when the cold damages all flower buds except the ones below snow level. Because the snow protected the flower buds, fruit only developed less than a foot or so above the ground. After the cold winter of 2013, the canes of many seedlings died.

COMMERCIAL POTENTIAL

Nanking cherries are not commercially viable with current varieties and growing methods. They are too prone to winter injury, too slow to pick for the fresh market, and most seedlings have poor yields and small fruit. If all the seedlings in a hedge had fruit as large and abundant as the shrub in Figure 31, the plant may have some potential, but that shrub produced better cherries than ten other plants. The plant in Figure 33 was more typical for the entire row.

Nanking cherries could become commercially viable if a producer is motivated to identify and propagate hardy, productive varieties with large fruit. There are numerous reports in the literature that speak of Nanking cherry varieties that produced fruit up to an inch in diameter, but those varieties were lost.

Figure 32. *A row of Nanking cherry seedlings, showing variability in height and winter injury. Dead canes on plants on the right were due to winter injury.*

Figure 33. *Dead branches from winter injury that occurred a year earlier.*

[45] Howard, R.A. and A.I. Baranov. 1964. The Chinese bush cherry – *Prunus tomentosa*. *Arnoldia*, 24: 81-86

EDIBLE LANDSCAPING

Nanking cherries are a superb landscaping plant, with pretty blossoms that open early in the spring and brilliant red fruit on a bright green shrub in the summer. They can be planted as a hedge along property borders, which also works for wildlife habitat or as a flowering shrub in a lawn. A small percentage of seedlings have pink flowers which further enhances their value to the landscaper.

MINNESOTA EXPERIENCES

Interest in Nanking cherries has always been highest in Minnesota and surrounding states. Several cultivars were developed and described by the University of Minnesota in the 1940s and 1950s, but those cultivars were lost by 1964. At times when Nanking cherries were being promoted, people planted small blocks, usually of seedlings, hoping to sell the fruit as either pick-your-own or at farmers markets, but neither the market nor the production materialized. Most commentators say that the crop did not succeed because there were no suitable cultivars. Several people have reported making great wine from Nanking cherries, but the fruit is small and difficult to pick. As in 1935, Nanking cherries remain the "fruit of the future."

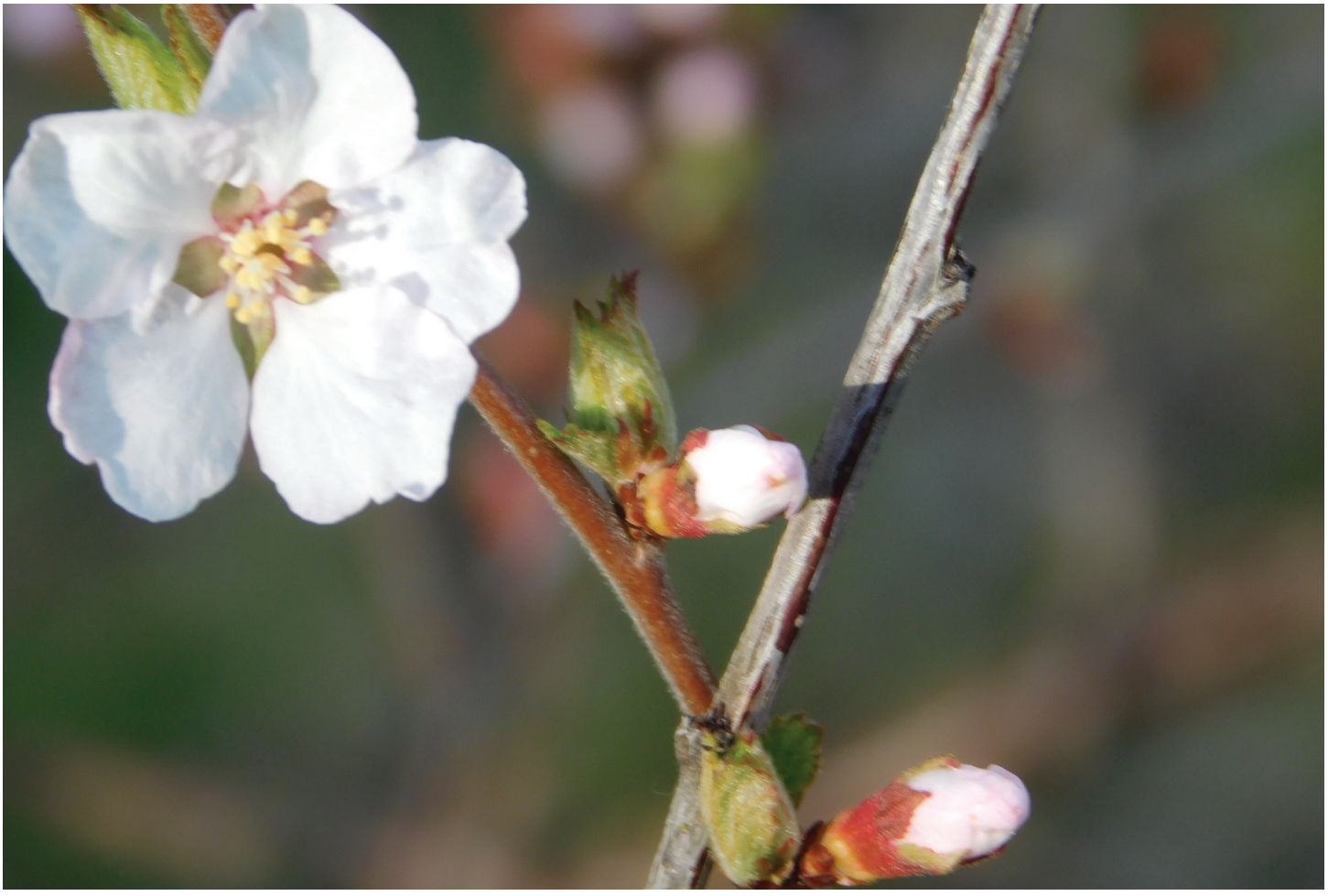

Figure 34. *Flowers and buds of Nanking cherries.*