

THE FLOWERING CRABAPPLE — A TREE FOR ALL SEASONS¹

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Abstract. Flowering crabapples are outstanding small trees for the landscape provided diseases are kept under control or avoided through the planting of disease resistant species and cultivars. Control measures for apple scab, fireblight, cedar apple rust and powdery mildew are listed along with descriptions of 25 flowering crabapples with good disease resistant properties. The height, habit, flower, foliage and fruiting characteristics are given for each type along with landscape use.

One of, if not, the finest small tree for landscape planting in northern and eastern United States is the flowering crabapple. The value of flowering crabapples begins with the color of the buds as they open into attractive flowers, some as early as late April and extending into late May with the later flowering types. In addition to an excellent display of flowers, many cultivars have attractive dark green foliage and outstanding displays of highly colored fruits extending from late summer through winter depending on the cultivar.

The color of the flowers range from white and pink to purplish red. Most are single but a few have semi-double and double blossoms with the latter usually later to bloom and bearing fewer fruits. The fruits range in size from $\frac{1}{4}$ " to 2" in diameter and in color from bright red to purple, from bright yellow to orange and various combinations. Although the fruit of some types are large enough for jelly making most of the newer cultivar introductions have fruit less than $\frac{1}{2}$ " in diameter which reduces maintenance problems.

Flowering crabapples, in general, are small trees with some types less than 20 feet in height, although others may grow to 30 or 40 feet. A common form of flowering crabapple is rounded and dense, but growth form varies widely from the narrowly upright in *M. cv. Centurian* to the pendulous branches of *M. cv. Candied Apple*. *M. sargentii* is dense and mound-like and may grow twice as broad as it is high. In summer each form

of flowering crabapple lends a distinctive character to the landscape, and the twisted limbs of older specimens may add picturesque beauty to the winter scene (Fig. 1).

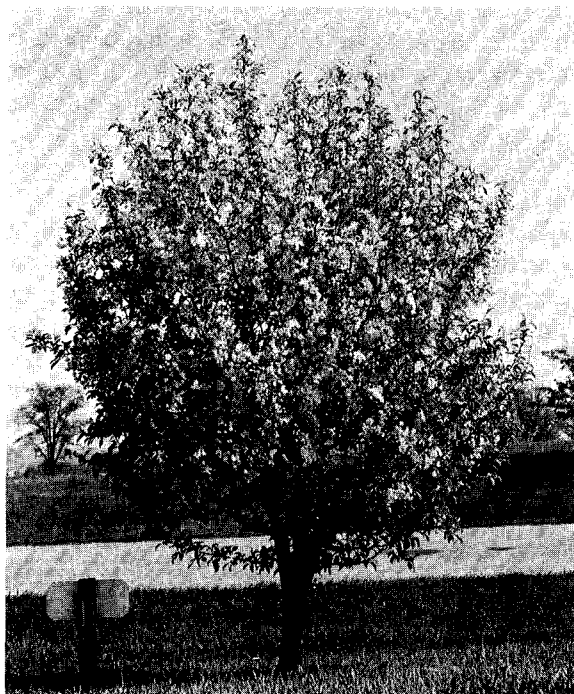


Fig. 1. *M. 'Silver Moon'* — At maturity this cultivar is narrow-upright and quite compact. This is a new cultivar introduction from Simpson Orchard Company, Vincennes, Indiana.

Flowering crabapples grow best in well drained soils and tolerate a pH range of 5.0 to 7.5, however, 5.5-6.5 is ideal. Although the plants thrive in soils with ample moisture, they will do well in dry sites once established. Avoid planting in excessively moist areas.

The importance of flowering crabapples in residential, commercial, and large-area landscapes is increasing rapidly, due to their interest

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during all seasons, their variety of forms, low maintenance requirements when disease-resistant cultivars are selected, and adaptability to most site conditions.

The variety of plant forms, flowers, and fruit color, along with moderate textural differences in the foliage, combine to make flowering crabapples a very useful species in the landscape.

The small size of the individual flowers and fruit may be appreciated at close range in the homeground setting, yet the combined flowers produce a beauty that is also appreciated from a distance. When one of these trees is planted individually as a focal point in the corner of a garden, its striking beauty fills another important landscape function.

In larger planting areas, such as parks and golf courses, these trees are frequently planted in groups so that the combined effect will be apparent from a considerable distance. Such locations benefit greatly from the flower color in the spring and the fruit color in the summer and fall.

The problem of tree limbs growing across electric power lines, common in street tree plantings, does not occur with this lower-growing species. Many communities have lined their streets with various flowering crabapples to add interest on a year-round basis and to reduce the maintenance associated with large shade trees.

Certain flowering crabapples may be rendered unsightly or severely injured by one or all of four common diseases, apple scab, fire blight, cedar-apple rust, and powdery mildew. Unless resistant flowering crabapples are grown, the sprays listed as preventives for the diseases must be included in the maintenance program.

Apple scab infection may be prevented by several applications of such fungicides as benomyl or folpet at 7 to 10 day intervals starting as soon as leaf growth appears. The object is to provide a protective coating of fungicidal chemical that will inactivate any spores already present on the leaves and fruit and any that may subsequently land on the surface. The critical period for apple scab control is from the time bud growth begins until about the middle of June. If scab infection can be prevented until all spores are discharged, the cycle is broken and little further source of in-

fection remains for the rest of the season. However, if early control is not obtained and if leaf and fruit infection do occur, more spores will be produced by these lesions, and apple scab will be a constant threat whenever wet weather occurs during that season.

Blossom sprays which help to protect the open flowers from infections are an important measure in fire blight control. Use streptomycin formulations (Agrimycin 17 or Agri-Strep Type D) at 75-100 parts per million. Apply the spray when 20 to 30 percent of the blossoms are open in areas where fire blight was severe in the preceding year. If the bloom lasts more than 5 to 7 days, apply another spray at the same rate.

Outbreaks of fire blight may occur on tender new growth of terminals and suckers during the early growing season following periods of rain accompanied by wind or prolonged high humidity. If such an outbreak should occur, apply 3 sprays of streptomycin, 75 parts per million, at 5-day intervals.

Control cedar apple rust with three sprays of zineb 75 percent wettable powder applied at 10-day intervals starting about the time color shows in the blossom buds.

As soon as the powdery mildew disease appears, which may be any time after the blossoms open until midsummer, spray 3 times at weekly intervals with benomyl 50 percent wettable powder.

There are approximately 700 named flowering crabapples in existence. Most of the older species can be located in arboretums but the majority are no longer in commerce.

The following species, hybrids, and cultivars have been found to be resistant or highly resistant to apple scab, the most serious of the diseases and to have desirable flowers, foliage, and fruit. It is from this list that arborists should select for future planting. Most of these selections are available from nurseries and, if not, scion wood is readily available for propagation.

M. cv. Adams Adams flowering crabapple 20' to 24'

The rounded, dense trees have clusters of carmine buds opening to carmine, single flowers

which expand to 1½ inches in diameter and become clear pink in color. The foliage is 2 to 3 inches long and light green with a reddish tinge to the new growth. The red fruit is 5/8 inch in diameter and develops color by the middle of July, but usually clings to the tree until spring. This tree is an annual bearer.

The masses of pink bloom and the persistent small red fruit, plus the fact that this cultivar is resistant to apple scab, fire blight, cedar-apple rust, and only slightly susceptible to powdery mildew, make this a good selection for mass planting and also as a specimen tree.

M. baccata cv. Jackii Jack flowering crabapple 30' to 40'

This upright-spreading cultivar has white buds with a slight pinkish cast opening to pure white, single flowers that are 1½ inches across. Foliage is dark green with a slight gloss, 2 to 3 inches long, and quite attractive. The fruit is purplish-red on the sunny side and approximately ½ inch in diameter.

The cultivar is planted for its excellent white flowers, good foliage, and large size. Use in groups in a background planting and in the foreground with evergreens on large estates, parks, or other large areas. This selection is slightly susceptible to fire blight and powdery mildew.

M. cv. Beverly Beverly flowering crabapple 25'

This upright-spreading tree has dark red buds that open into clear white, single flowers. The light green leaves are less than 2 inches in length, resulting in a finer textured foliage than larger-leaved types. The excellent fruit is from ½ to ¾ inch in diameter. With its upright form and annual crop of small, bright red fruit, this plant may be used as a street tree or a specimen tree in lawn areas or parks. Since it is susceptible to fire blight it should be used with caution where this disease is likely to be a problem.

M. cv. Bob White Bob White flowering crabapple 20'

The mid-season flowers are pink in bud, opening to white, 1-inch, single blossoms. The leaves are slightly glossy, light green, and less than 2 in-

ches long, giving a fine-textured foliage. Fruit is yellow, 5/8 inch across, and persists until eaten by birds in late winter.

The cultivar Bob White should be planted where a rounded, white-flowered tree can be displayed and where its excellent, persistent yellow fruit will attract winter birds. It is moderately susceptible to fire blight.

M. cv. Candied Apple (P.P. 4038) Candied Apple flowering crabapple 10' to 15'

The tree branches grow in a horizontal to weeping manner, giving it an irregular form. The red buds open to single, pink flowers. The leaves are heavy textured and dark green with an overcast of red. The bright cherry-red fruit is about 5/8 inch in diameter and persists into December.

This cultivar is slightly susceptible to apple scab. With its weeping form, it would be a good replacement for cv. Red Jade, which can be severely affected by both apple scab and fire blight.

M. cv. Centurian Centurian flowering crabapple

This narrow-upright flowering crabapple has red buds opening to rose-red blossoms. Like many of the newer selections it blooms when the trees are less than 5 years old. The glossy dark green leaves are 3 inches long by 1½ inches wide. The 5/8-inch glossy, cherry-red fruit colors in early August and persists for two months.

This is a good choice where a narrow-upright flowering crabapple with abundant pink blossoms, early coloring, and persistent bright red fruit is desired. It is disease resistant.

M. cv. Coralburst (P.P. No. 2983) Coralburst flowering crabapple 8'

This rounded type is double-topbudded on a 30-to 36-inch stem piece to produce a small, flowering tree that has coral-pink buds, which open to single to semi-double rose-pink flowers. It also is ground budded to give a shrub form. The leaves are very small, dark green, lacking sheen, and closely placed on the stem. The fruit is sparse, bronze colored, and less than ½ inch across.

The values of this flowering crabapple are its

dainty, almost miniature, features, dwarf habit, and attractive flowers. Use as a specimen, a conversation piece, or where a small, pink-flowering crabapple is wanted.

It is slightly to moderately susceptible to apple scab.

M. cv. David David flowering crabapple

Buds are light pink, opening to 1½-inch, single blooms in mid-season. Foliage is medium green, 2 to 3 inches long, healthy and not glossy. Fruit is approximately ½-inch wide, scarlet red, and attractive. Although the foliage tends to conceal the flowers and fruit, this is an excellent plant.

It is slightly susceptible to fire blight.

M. cv. Dolgo Dolgo flowering crabapple 40'

Expanding buds are pinkish-white, opening to fragrant white flowers, 1½ to 1¾ inches in diameter, borne profusely every other year. The foliage is medium green, and more than 3 inches long. The egg-shaped fruit is bright red, 1¼ to 1½ inches across, maturing in August and dropping soon after ripening.

Plant Dolgo for white spring flowers and red summer fruit and particularly for jelly-making, as this cultivar is one of the few dual ornamental and culinary types that is disease resistant and readily available in the trade. It is slightly susceptible to apple scab and fire blight.

M. cv. Donald Wyman Donald Wyman flowering crabapple 15' to 20'

It is a compact, rounded tree with dark green foliage. The expanding buds are pink, opening to white, single flowers, which are about 1¾ inches across. In most locations it flowers annually. It produces a heavy crop of bright red fruit about 3/8 inch wide.

The tree retains its fruit in good condition well into the winter months, when the fruit of nearly every other flowering crabapple has either dropped, been eaten by the birds, or has turned brown and unattractive.

Since it is resistant to apple scab, cedar-apple rust, and fire blight, and only slightly susceptible to powdery mildew, this tree is a good choice either as a specimen tree or in mass plantings.

The small, bright red fruit that later serves as food for the birds adds to its attractiveness.

M. floribunda Japanese flowering crabapple 25'

The flower buds are deep pink and red, but the flowers fade to almost white. Mid-season flowers are fragrant, single, and small, averaging 1¼ inches in diameter. *M. floribunda* is an annual bearer. The foliage is 2 to 3 inches long and dark green. Fruit is red and yellow, 3/8 inch across, and attractive from late August to mid-October. It is slightly susceptible to powdery mildew and moderately susceptible to fire blight.

M. halliana cv. Parkmanii Parkman flowering crabapple 15'

This cultivar has a round growth habit and is one of the best low-growing, pink flowering crabapples. The semi-double to double pink blooms at the end of the flowering crabapple season help prolong the period of bloom with this genus. The blooms are unique in that they are pendulous clusters borne on long, deep crimson pedicels. Bright rose-red in bud, the flowers open to an attractive shell pink. The foliage is slightly glossy, dark green, and relatively small, adding to the fine texture of the tree. Since the flowers are double, the fruit is not plentiful. The few fruits that set are purple, ¼ inch across, and not particularly attractive.

The tree is used in landscaping for its small to intermediate height and rounded habit, and to extend the flowering season by a week with its delicate pink blooms. It is moderately susceptible to cedar-apple rust and fire blight.

M. cv. Indian Magic Indian Magic flowering crabapple

This rounded type has red buds that open to rose-pink, single flowers, 1½ inches across. The foliage is dark green, with leaves 2 to 3 inches long. The fruit is ½ inch across, elongate, glossy red changing to golden orange, it remains attractive long after the foliage drops. The fruit changes to a glossy brown color during the winter and persists until spring, providing good food for the birds.

Although this cultivar sometimes is moderately

affected by apple scab, it is included as a desirable flowering crabapple, because the leaves remain on the tree until fall in spite of severe apple scab infection. Offsetting its disease susceptibility are the abundant pink blossoms and the outstanding display of glossy red fruit.

M. cv. Liset Liset flowering crabapple 15' to 20"

The buds are bright crimson, opening to rose-red single flowers, approximately 1½ inches across. The fruit is dark crimson to maroon-red, glossy, and approximately 5/8 inch across. Its habit is rounded. In some locations longitudinal cracks appear on the bark of the scaffold branches. Since these cracks heal over the same year that they are formed they do not detract appreciably from the appearance of the tree.

Liset is resistant to apple scab and cedar-apple rust, moderately susceptible to powdery mildew, and only slightly susceptible to fire blight. Since it has dark red flowers it would make a good replacement for *M. lemoinei*, which is very susceptible to apple scab. Liset is one of the best red flowering crabapples.

M. cv. Mary Potter Mary Potter flowering crabapple 10'

It has a large, shrub-like growth habit and grows slightly higher than *M. sargentii rosea*, which was one of its parents. The pink buds expand to white, approximately 1 inch across. The fruit is red and about ½ inch across. The dark green foliage is 2 to 3 inches long. This cultivar is an excellent small tree with a little more height than the Sargent flowering crabapple but otherwise similar.

Mary Potter is moderately susceptible to apple scab, powdery mildew, and fire blight.

M. cv. Ormiston Roy Ormiston Roy flowering crabapple 25' to 30'.

When young, the trees tend to be somewhat upright, but with age the branches spread out and take on the form of *M. floribunda*, although less densely branched and rounded. The flowers are pale pink to white, single, about 1½ inches across. The tree is an annual bearer. The foliage is medium green and 2 to 3 inches in length. The fruit is yellow, about 3/8 inch in diameter, and very

abundant and persistent, lasting until the following March, thus providing excellent winter bird food.

M. cv. Red Jewel (P.P. No. 3267) Red Jewel flowering crabapple 15'

The flowers are numerous, white, and single. Leaves are 2 to 3 inches in length and dark green. This cultivar is outstanding in autumn with numerous, persistent, glossy, bright cherry-red fruit, ½ inch in diameter. This color darkens upon freezing but is noticeable until late winter.

Plant Red Jewel where a medium-sized, horizontal branching tree with excellent small, red fruit can be used to advantage in the landscape. Consider this selection as an alternative for white flowering dogwood. It is moderately susceptible to apple scab.

M. cv. Robinson Robinson flowering crabapple 25'

The abundance of deep pink, single flowers on this vigorously growing plant makes a very colorful spring bloom. These flowers are accompanied by dark green leaves with red veins, giving the effect of purple leaves. The foliage is often 3-lobed, which adds to the already distinctive leaf color. The dark red fruit is quite glossy and 3/8 inch in size. Although the fruit is showy, its maximum effect is limited by the background of purple foliage.

As a vigorously growing plant with both attractive flowers and fruit, this tree may be used equally well as a single specimen in a small landscape or in groups for larger landscapes. It is disease resistant.

M. sargentii Sargent flowering crabapple 8'

The most outstanding feature of this species is its low, spreading shrublike form. As the flower buds begin to open in the spring there is a touch of pink color, which soon turns to white as the 5-petaled flowers open into full bloom. The blooms cover the plant, giving the effect of a mound of white in the landscape. The leaves are dark green and frequently 3-lobed, although some are without lobes. The dark red fruit, ¼ inch in diameter, is quite showy against the dark green leaves. Fruit may mature in late August and continue to be attractive until frost, when it softens

and is devoured by birds.

The Sargent flowering crabapple may be used effectively as a specimen plant in small home grounds and also in groups in large-area landscaping. This flowering crabapple makes an excellent cover for large slopes when planted in groups of three or more. This species is slightly susceptible to fire blight.

M. sargentii cv. Tina Tina flowering crabapple 4' to 5'

The tree has the same low, dense, spreading-branching habit as the Sargent flowering crabapple, but it does not grow much taller than 4 to 5 feet. In certain locations, it may be adapted to growth in containers. The bright red buds, with the bright yellow pollen masses of the stamens protruding, give a pleasing splash of color, which is followed by the pure white, single flowers. The bright red fruit is the same size as the regular Sargent flowering crabapple.

Use in the landscape as a novelty, in the rock garden, in a planter on the patio, or as a specimen close to the house. The tree is disease resistant.

M. sieboldii var. zumi cv. Calocarpa Redbud flowering crabapple 25'

Rounded in habit, the flowers are single, 1 inch across, and white from deep red buds. The foliage is 2 to 3 inches long, medium green, with a slight gloss. Fruit is a brilliant red in full sun, 3/8 inch across, extremely abundant, and persistent.

It is one of the finest flowering crabapples for all seasons, with outstanding flowers, foliage, and fruit. Plant as a specimen and to attract winter birds near the home. Use also as a street tree and in groups for height or screening purposes in larger landscapes. It has some biannual-bearing tendencies which is its only disadvantage.

This flowering crabapple may be severely damaged by fire blight so it should not be planted where this disease is apt to be a problem.

M. cv. Snowdrift Snowdrift flowering crabapple 15' to 20'

The mid-season flowers of Snowdrift, red in bud and opening to white, are single, approximately 1 1/4 inches in diameter, and completely cover the

tree, making an excellent display of color. Foliage is light to medium green, 2 to 3 inches long, and glossy. The plentiful orange-red fruit, approximately 3/8 inch in diameter, is attractive in autumn. The only drawback to this outstanding flowering crabapple is its susceptibility to fire blight in those areas where this disease is a problem.

Plant this straight-trunked cultivar in shopping malls and along streets, as it is grown for this purpose.

M. tschonoskii Tschonoski flowering crabapple 30'

As the shoots begin to grow in the spring they are in white, but they soon turn to gray as the light green of the mature leaf begins to show through this white cover. The effect is a tree which is unusually gray in foliage color throughout the summer. In the fall, however, leaves turn many bright shades of yellow, orange, red, and purple to complete a season of interesting color. The leaves are rather coarse and slightly lobed (Fig. 2).

The flowers are small and white and not so plentiful as to be attractive. The 1 inch fruit is also sparse and has a dull yellow-brown color.

The distinct upright, oval form of this species combined with the outstanding leaf color make this species very useful as a focal point or to add growing season color in the landscape. Its



Fig. 2. *M. tschonoskii* — Young foliage is white, turning to gray and light green. In autumn the foliage color is a very attractive mixture of yellow, orange, red and purple. A good street tree with few flowers and fruits.

greatest use should be as a tree for highway plantings due to its narrow oval form, unusual summer foliage, and good fall color.

Tschonoskii is severely susceptible to fire blight.

M. cv. White Angel White Angel flowering crabapple 20' to 25'

The white, single 1 inch flowers completely cover the tree in late April, producing one of the most outstanding flowering crabapples in bloom (Fig. 3). The large, glossy, dark green leaves are rather attractive. The scarlet red fruit approximately ½ inch across, colors in early autumn, remains highly attractive until after one or more hard freezes, and persists on the tree until mid to late winter. This is one of the last cultivars to have its fruit eaten by the birds.



Fig. 3. *M.* 'White Angel' — This cultivar is one of the best white flowering, red-fruited crabapples for all seasons.

Plant White Angel as a specimen or focal point in the landscape, as it represents one of the best white-flowering, red-fruited crabapples. It is slightly susceptible to fire blight.

M. cv. Winter Gold Winter Gold flowering crabapple 20'

Deep carmine-colored buds precede the white, 1 inch, single flowers, which open late in the bloom period of flowering crabapples. Foliage is attractive, medium green, and approximately 2 inches in length. The yellow fruit is the outstanding feature of this cultivar; ½ inch in diameter, it is abundant and persistent.

Use in the landscape for its medium height and yellow fruit, which holds its color until a hard freeze.

It is moderately susceptible to scab and fire blight and slightly susceptible to powdery mildew.

Additional information on this subject can be obtained in Bulletin NCR78-NE223 *The Flowering Crabapple - A Tree For All Seasons*, by J.E. Brewer, L.P. Nichols, C.C. Powell, and E.M. Smith, available from County Extension Service offices.

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