

# FLOWERING CRABAPPLES



With the arrival of spring comes the annual crabapple (*Malus*) bloom. Each year this group of plants announces the end of winter and awakens the gardener in us all. With flower color, fruit characteristics and growth form to suit almost any landscape, it is no wonder these plants are so popular.

The only distinction between ornamental crabapples used in the landscape and the apple trees grown for fruit production is fruit size. Flowering crabapples have fruit 2 inches or less in diameter. They are among the most popular ornamental trees across the country, including Kansas. They provide spectacular bloom, pleasing foliage that can vary in color and colorful fruit that is often retained well into winter. Many crabapples have attractive bark and interesting twig and branch forms during the dormant season. The gnarled and twisted limbs of older trees are particularly striking in the winter landscape.

The showy blossoms appear in early April, although the bloom period can vary from year to year depending on the weather. Crabapple blossoms develop color even before opening and can be quite beautiful as they begin to swell (called ballooning). From ballooning to the end of flowering, the tree's floral display may last up to two weeks. With a great number of cultivars to choose from with a wide range of bloom time, one can spread the blooming period over four to five weeks.

In the balloon stage, color can vary from white to pink or red, and frequently flower color is very different than balloon color. For instance, it is common to find white flowers on crabapples that are pink or red in the balloon stage. When open, blossoms range from white to dark, purple-red with many variations of pink. Most crabapples have single flowers, but a few have semi-double or double blossoms.

In the summer, most crabapples have attractive green foliage. Some have a distinct reddish leaf color throughout the growing season, while others show a red or bronze color only

for the first month or so of the growing season and eventually change to green.

Although they exhibit little fall color, many crabapples do have showy, colorful fruit. The color ranges in shades of orange and combinations from bright red to purple and bright yellow to orange. The fruits of some cultivars begin to color in August and others don't begin to color until September. Some varieties drop their ripened fruit while others hold their fruit until spring, providing food for birds. For areas where fruit drop may be a nuisance, fruitless cultivars ('Spring Snow,' for example) will have all the other attractive crabapple features, but no fruit. Those who enjoy jelly made from the tart fruit will want to choose a tree that produces larger fruit such as 'Centennial,' 'Dolgo,' 'Maypole' or 'Ralph Shay.'

## Choosing crabapples for the landscape

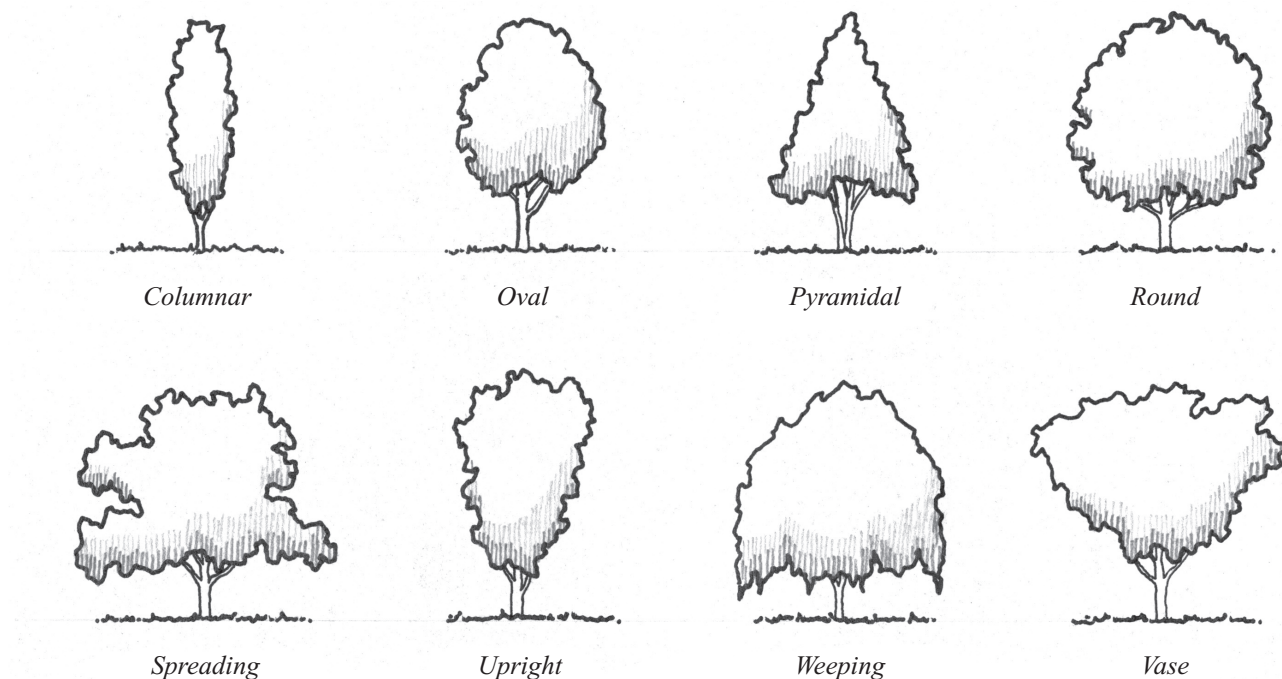
Besides being a tree for all seasons, its variety of forms and sizes make the crabapple a tree for all landscapes, from city parks and street plantings to the home landscape.

With such an array of ornamental attributes, selecting a crabapple for landscaping requires considerable thought. There are many factors to consider: formal or natural setting; tree size and growth form; flower color; fruit color, size and retention; and disease resistance.

Crabapples have many uses in landscape design. In a park or large garden setting, they may be used as a grouping on a gently rolling slope. A variety with a mounded growth habit would accentuate that landscape.

A row of columnar crabapples can give an impressive, but scaled-down effect of a tree-lined drive. Because of their dense growth, many crabapples are well suited for creating a screen or enclosure for an outdoor space. Crabapples can be used in a natural setting as well, when planted among native plant materials.

Figure 1. Flowering crabapple tree shapes



In the home landscape, crabapples can provide a background for a shrub border. They add seasonal color when placed against a group of evergreens. Used at the entrance, the right tree form can complement the architectural lines of the house.

As with other landscape planning, the ultimate size of the tree and its form or growth habit are important considerations. Mature crabapples can be as small as 10 feet high or less, or as tall as 30 to 40 feet. Most have a rounded shape with a dense branch structure, but growth habits vary from narrowly upright to weeping (see Figure 1). Many weeping forms have been introduced and some, but not all, have been evaluated in Kansas. Promising cultivars include 'Louisa' (pink), 'Luwick' (white with red fruit), 'Red Jade' (white with red fruit), and 'White Cascade' (white with yellow fruit). Semi-weeping, artistic forms are 'Molten Lava' and 'Sinai Fire,' which have white flowers with red winter fruit. Crabapples can also be trained to an espalier form to enhance a wall or fence.

Crabapples often are chosen for prominent locations because of their attractive appearance. Make sure the crabapple will not only survive, but flourish.

Considering the large number of crabapple cultivars, only a few meet the stringent requirements of excellent flowering, fruit, growth habit and disease resistance. Many are slightly susceptible to scab or fireblight disease, but may be acceptable if their limitations are understood.

### Cultural requirements

Crabapples are adaptable to a variety of soil conditions, but seem to do best in a heavy loam. The soil should be well drained and slightly acid with adequate moisture. Crabapples are cold hardy throughout Kansas. Plant in full sun for best

flower and fruit development. Crabapples planted in shaded locations tend to develop an open shape, are more susceptible to disease, and produce few flowers.

Keeping suckers removed is essential to maintaining the beauty of ornamental crabapples. On some cultivars, especially dwarfs, the understock is too vigorous for the top and forces suckering at the base of the trunk. These suckers will eventually overtake the tree and the cultivar will be lost.

Generally, crabapples require only light maintenance pruning after the early training to select scaffold branches. This training should be done during the first two or three years. Extensive pruning to remove large limbs should be done before or during early June. Light pruning to remove unwanted sucker growth, open up the center of the tree to let in light and air or remove out-of-place branches can be done at any time. Most crabapples initiate flower bud set for the next season in mid-June to early July, so pruning during or after this period will limit flower production the following year. Heavy pruning of a crabapple will result in numerous vigorous shoots (watersprouts) throughout the crown and result in an unappealing appearance.

The most attractive form for crabapples is obtained when the ratio of trunk to leafy top is about one-fourth to three-fourths.

Crabapples tend to be strong trees, well anchored in the ground and not prone to topple or suffer branch damage under the weight of ice or snow.

### Disease

Disease resistance is as important as the ornamental traits of a crabapple. Apple scab, fireblight, cedar apple rust and powdery mildew are the four major diseases affecting crabap-

ples. Through proper cultivar selection, these diseases can be almost eliminated. In no other area has crabapple breeding and selection been more successful.

Apple scab creates smoky blotches on the leaves, causing them to turn yellow and drop prematurely. ‘Radiant’ crabapple for example, though one of the most eye-catching early bloomers, will lose a majority of its foliage by mid-summer, resulting in an unattractive tree with a thin canopy. Fruit of susceptible cultivars also may become infected, showing round, rough spots of black or brown. The discoloration detracts from the ornamental value of the fruit. Apple scab is the most common disease of crabapples, but also the easiest to prevent with cultivar selection.

Fireblight is a bacterial disease that causes leaves to blacken and shrivel on the tree. The disease often starts at the tip of the branch. The first signs of fireblight are a segment of the stem with black, shriveled leaves still attached and a shepherd’s hook at the tip. As the disease spreads to larger branches, more of the tree dies and is unattractive. Although fireblight is not often a serious problem in Kansas, it does occur and can cause catastrophic damage to a single tree in just one growing year. New methods of screening for fireblight resistance have been developed recently and are proving valuable in rating old and new cultivars for fireblight susceptibility.

Rust-colored spots on leaves are characteristic of cedar apple rust. It is only a problem in areas where native cedars or ornamental junipers are growing within a mile of apple trees

or crabapple trees. Severe infection may cause early leaf fall and dwarfing of the tree.

Powdery mildew is the least serious of the four diseases. Its symptoms are twisted, narrow, cupped terminal leaves covered with a powdery white fungus. Susceptibility varies by cultivar and exposure. Powdery mildew tends to occur in locations with poor air flow where humidity can build within the canopy of the tree. The problem can be partially corrected by opening up the crown of the tree by selective branch removal.

In addition to the crabapples listed in the following table, several other selections offer a variety of forms, flower colors and fruit types. *Malus* ‘Ralph Shay’ has large fruit that never drops and is suitable for making jelly, *M. sargentii* ‘Tina’ is a very dwarf form and *M. tschonoski* is a Japanese species with silvery young foliage, excellent fall color and disease resistance. It rarely blooms, but is grown for its attractive foliage.

Numerous new cultivars have been introduced recently that have not yet been fully evaluated in Kansas. Evaluation on new cultivars continues at the K-State Research and Extension John C. Pair Horticultural Center near Wichita. The following is a table of many cultivars and their characteristics. This list is for information only. It is not a list of recommended cultivars, because there are some cultivars that would not be recommended. It should be used as a guide to inform the homeowner or landscaper as they are shopping for crabapples and may encounter many of the listed selections, whether recommended or not.

**Table 1. Flowering crabapple cultivar characteristics**

<i>Malus</i> species and/or cultivar	Flower color	Fruit color, size, retention	Tree shape and size <sup>1</sup>	Disease resistance <sup>2</sup>			Comments
				Scab	Rust	Fireblight	
Adams	Pink	Dark red Small Excellent	R 20 feet	G	E	E	Old, dependable cultivar. Annual bloomer with distinctive oval fruit and a bold winter effect.
Adirondack	White	Bright red Small Good	Col 20 feet	E	E	E	Very upright and columnar. Makes an excellent screen.
<i>baccata</i> Jackii	White	Red Small Excellent	R 30 feet	E	E	G	Very hardy. Medium-sized annual bloomer with fruit that is attractive to birds.
Beverly	White	Bright red Small Excellent	Upr-R 20 feet	E	E	F	Pink buds that open to white foliage. Rounded tree with good summer foliage.
Brandywine	Red/pink	Yellow Medium	R 15 to 20 feet	F/P	G	G	Blooms later than most. Double flower and nice yellow fruit.

<sup>1</sup>Tree shape abbreviations: Col – Columnar, Ov – Oval, R – Round, Sh – Shrubby, Spr – Spreading, Upr – Upright, W – Weeping, V – Vase

<sup>2</sup>Disease resistance: E – excellent, cultivar does not get the disease; G – good, cultivar may get disease but does not affect the ornamental characteristics of tree; F – fair, cultivar is susceptible to the disease and appearance may not be acceptable depending on the particular situation; P – poor, cultivar will become infected with the disease, resulting in an unacceptable overall appearance of the tree.

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				Scab	Rust	Fireblight	
Camelot	Pink/white	Burgundy Small	Spr-Sh  10 feet				Dwarf compact. Thick, green leaves with a hint of burgundy.
Candyment	Pink/red	Red/purple Small	Spr-Sh  10 feet	G	E	G	Dwarf spreading. Deep flower color with purple/red foliage.
Cardinal	Red	Red Small Good	Upr-Spr  20 feet	E	E	G	Broad-spreading tree with glossy, red/purple foliage.
Centurion	Red	Glossy red Medium Excellent	Upr-V  20 feet	G	E	E	Large, vigorous, upright tree with rose-red flowers and good winter fruit.
Coralburst	Pink	Red/orange Small	R-Spr  10 feet	E			Dwarf cultivar grafted on a standard. Good specimen.
David	White	Red Small Good	R Open 15 feet	G	E	E	Small, open tree. Very showy blooms.
Donald Wyman	White	Bright red Small Excellent	Upr-Ov  15 to 20 feet	G	E	F	Annual, profuse flowering. Excellent form with attractive winter fruit.
Doubloons	White	Yellow Small Excellent	Upr-Spr  15 to 20 feet	G	E	F	Deep green foliage. Yellow fruit are persistent and attractive.
<i>sargentii</i> Firebird	White	Red Small Excellent	R-Spr  10 feet	E	E	G	Dwarf that is typically grafted on a standard. Very persistent fruit.
<i>floribunda</i>	Pink/white	Red/yellow Small	Spr  25 feet	G	E	F	An old favorite. Annual bloomer.
<i>transitoria</i> Golden Raindrops	White	Gold yellow Small Good	Upr-Spr  20 feet	E	E	P	Good, dark green foliage. A late bloomer with tiny, attractive fruit.
Guinevere	White	Red Small Good	Spr-Sh  10 feet	G	G	G	Dwarf, compact plant. Nice flower display followed by attractive fruit.
Harvest Gold	White	Yellow Small Persistent	Upr-Ov  20 feet	F	G	F	Upright, branching habit. One of the best yellow-fruited crabs. Beautiful in the fall.
Indian Magic	Pink	Orange/red Small, oval Persistent	Upr-Spr  15 feet	F	G	G	Showy red to dark pink blooms. Excellent winter fruit display.

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Indian Summer	Red/Pink	Bright red Medium-large Good	R  20 feet	F	E	E	Vigorous, rounded tree with some fall color and winter fruit for birds.
Lancelot	White	Gold Small Persistent	Upr-R  10 feet	G	G	G	Compact growth. Bright green foliage and fruit that last long into the winter.
Liset	Red	Maroon Small Persistent	Spr  15 feet	G	E	G	Purplish-red flowers with bronze-green foliage. Shrubby, but can be pruned up. An old favorite.
Lollipop	White	Yellow Small	R-Sh  10 feet	G	E	G	Dwarf form grafted on a standard. Very dense and compact with a formal appearance.
Louisa	Pink	Yellow Small	W  15 feet	G	G	G	Broad weeper. May not perform well in full Kansas sun.
Luwick	Pink/white	Red Small	W  10 feet	G	E	E	True weeper with nice green foliage. Good all-around tree.
Madonna	White	Gold/red Small	Upr-V  15 feet				Large double flowers on a compact plant. New growth has a hint of bronze.
Mary Potter	Pink bud White	Red Small Persistent	Spr  10 feet	G	E	F	Low growing with a unique horizontal shape. Attractive bud and flower. Alternate bearing.
Maypole	Pink	Red Large Good	Col  20 feet	G	G	G	Good tree for narrow spaces. Columnar growth. Large fruit is suitable for jellies.
Molten Lava	White	Red Small Good	Spr-W  15 to 20 feet	G	G	G	Very broad spreading weeper. Nice green foliage with attractive flowers and good fruit color.
Ormiston Roy	White	Yellow Small Excellent	Upr Spr-R 25 to 30 feet	G	G	G	Annual bloomer with attractive winter fruit. Upright when young, but spreads with age.
Pink Princess	Pink	Red Small Good	Spr  10 feet	E	E	E	Dwarf. Purple/red foliage that turns bronze in the summer.
Pink Satin	Light pink	Red Small Good	Upr-R  15 to 20 feet	G	G	G	Light pink double flowers.
Prairie Maid	Pink	Orange/red Small	R-Spr  15 to 20 feet	E	E	G	Dark green leaves. Flowers later than most but has good flower quality.

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<i>ioensis</i> Prairie Rose	Pink	Fruitless	R 20 feet	G	F	F	Attractive foliage with nice, pink, double flowers. Fruitless. Very disease prone in Kansas trials.
Prairiefire	Red	Maroon Small Persistent	Upr Spr-slow 20 feet	G	E	G	A true red color with purplish-green foliage. Large tree but slow growing.
Professor Sprenger	White	Orange/red Small Excellent	Upr-Spr 20 feet	E	E	E	Bright pink buds open to white, fragrant flowers. Showy fruit in the fall.
Purple Prince	Rose red	Maroon/purple Small Excellent	Upr-R 20 feet	E	E	G	Outstanding flowers and fruit. Purple/red foliage turns bronze/green.
Radiant	Deep pink	Red Small Fair	R 25 feet	P	G	E	Early to bloom, but the outstanding flower color looks poor in mid-summer due to scab.
Red Barron	Red	Red Medium Good	Col-Upr 18 to 20 feet	F	E	G	Narrow, columnar form for compact spaces.
Red Bird	Light pink	Red Small Good	R 15 to 20 feet				Numerous, small, bright red fruit are attractive in fall.
Red Jade	White	Bright red Small Excellent	W 10 to 12 feet	F	E	F	Graceful weeping form with good winter fruit retention.
Red Jewel	White	Bright red Small Excellent	Upr-Ov 15 feet	G	E	F	Winter fruit remains on tree until flowering.
Red Splendor	Red/pink	Orange red Medium Excellent	Upr-Spr 25 feet	F	G	G	Large, single, pink flowers. Has vigorous, irregular growth.
Royal Fountain	Pink	Red Small Good	W 10 feet	F	E	G	Broad weeping with purple/red foliage. Nice overall appearance.
Royal Raindrops	Pink/red	Red Small Excellent	Upr-Spr 20 feet	E	E	E	Deep purple, cutleaf foliage that retains color well and has excellent disease tolerance.
<i>sargentii</i>	White	Dark red Small Excellent	Sh-Spr (compact) 6 to 8 feet	E	E	E	Dwarf, compact form with a tendency for alternate bearing.
Sentinel	White	Red Small Persistent	Upr-V 15 feet	G	E	G	Useful for parkways if pruned properly.

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Snowdrift	White	Orange red Small Excellent	Spr-R  15 to 20 feet	G	E	F	Strong-growing and wind resistant with fruit that birds prefer.
Spring Snow	White	Fruitless	Upr-Ov  20 feet	P	G	F	Large, white, single flowers that are very showy in bloom. Does not produce fruit.
Sugar Tyme	White	Red Small Excellent	Upr-Ov	G	E	E	Good all-around tree with attractive flowers and fruit and good disease resistance.
Thunderchild	Pink/red	Purple/red Small Good	R  20 feet	F	G	E	A rapid grower with good purple foliage that retains color in the summer.
Velvet Pillar	Pink	Maroon/red Small Fair	Up-Spr	F	E	G	Attractive flowers and foliage, but has not performed well in Wichita trials.
Weeping Candied Apple	Pink	Red Small Persistent	Spr-W  15 feet	F	E	E	Unique arching to weeping with a graceful habit. Persistent winter fruit.
White Angel	White	Dark red Medium Excellent	Upr-Spr  20 to 25 feet				Large, vigorous tree with an open growth habit and heavy fruiting that is retained into the winter.
White Cascade	White	Yellow Small Good	W  12 to 15 feet	G	E	E	Attractive pink buds open to white flowers. A nice specimen with graceful weeping.
<i>X zumi</i> Calocarpa	White	Red Small Excellent	R-Spr  25 feet	E	E	E	Pink buds open into white blossoms. Attractive persistent fruit.
The following selections were only recently planted at the John C. Pair Horticultural Center. At the time of this publication, only one year's evaluation has been made, so no tree scored an "Excellent" due to lack of data. However, a "Good" rating indicates no signs of the respective disease. No observations were made on growth habit. These cultivars are included in this publication because homeowners may see them at various retail nurseries.							
Mays Delight				G	G	G	Red/purple new growth on lobed leaves.
Spring Sensation	Rose red	Small		G	G	G	Thick, deep green leaves with red/purple stems and petioles. Looks impressive.
Pumpkin Pie		Small		F	G	G	Bright, lime-green, deeply lobed leaves. Well branched at a young age.
Orange Crush	Purple/pink	Maroon/red Small		F/P	G	G	In spite of some scab, this selection is beautiful in flower and summer foliage.
Holiday Gold				G	G	G	Light green, clean foliage.
Cinderella		Small		G	G	G	Dwarf, shrub type with dense growth of deep green foliage. Good for small areas.

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