



TREES & SHRUBS

Flowering Crabapple Trees

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Quick Facts...

Crabapples are popular trees closely related to apples, but with smaller edible fruit. They may also differ in leaf color, growth habit, flowering time or flower color.

Crabapple trees are fairly drought tolerant. They can be low maintenance and versatile landscape plants, often with more than one season of interest.

Crabapple trees are generally well-adapted to Colorado soils and climate, but varieties or cultivars should be carefully selected for disease resistance and for higher elevations.

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Flowering crabapples (*Malus* species) are popular ornamental trees in Colorado landscapes. The Front Range is known for its crabapple flowering, announcing the arrival of spring.

Crabapple blossoms appear in April to May, depending on variety and elevation. Some crabapple varieties bloom relatively early, others bloom mid-season and some bloom towards the end of crabapple season. Crabapple flowers may be single (5 petals), semi-double (6 to 10 petals) or double (more than 10 petals). Single-flowered crabapple varieties tend to bloom earlier than semi-double or double-flowered varieties. Actual dates of blossoming can vary each year depending on weather conditions. The length of the blossoming period can range from 1 to 2 weeks, depending on the variety and weather conditions. Crabapple flower buds are attractive even before they open, developing color as they swell—called the balloon or bud stage. The balloon may be a different color than later flowers. For example, the balloon may be red-purple but flowers open later to pink or white.

Crabapple trees are closely related to apple trees (also *Malus*) grown for fruit. The main difference is that crabapple fruit is 2 inches diameter or less; fruit greater than 2 inches diameter is classified as an apple. Many crabapples develop showy displays of fruit, increasing their ornamental value in the landscape. Some crabapple varieties have more or longer-lasting ornamental value from their fruit display than from their flowers. Fruit varies in size and color, from 1/4 inch to 2 inches and from yellow and orange to purple to brilliant red. Some varieties drop fruit upon ripening in fall; the fruit of many other varieties persists into late winter. Homeowners who recall the messiness of large-fruited crabapples should be aware that many newer varieties have smaller, persistent fruit. Larger-fruited crabapples are valued for making jams and jellies.

Some varieties of crabapple have showy fall leaf color, ranging from yellow to orange to red and purple. Crabapple twig and bark color ranges from green to yellow to reddish brown when young. Many crabapples develop attractive mottled bark as they mature.

Crabapples are small to medium size trees, ideal for today's smaller residential lots. Crabapples can be used under power lines, as screens, specimen trees, patio trees, wildlife habitat, backgrounds, or grouped in mass plantings. Smaller or dwarf varieties can even be planted in containers. Some are budded onto dwarfing apple rootstock to make them semi-dwarf or dwarf in size. There is a crabapple variety to meet just about any landscape need. Several varieties, including Dolgo, Radiant, Spring Snow, and Thunderchild are hardy to 8000' elevation (See fact sheet 7.423, *Trees and Shrubs for Mountain Areas*).

There are approximately 1000 different known varieties, of which perhaps 100 are most commonly planted nationally. These vary by mature size,



Figure 1. *Malus* 'Radiant'



Figure 2. *Malus* 'David'



Figure 3. *Malus* 'David'

growth habit, flower color, and the size/color of fruit. About 25 varieties are commonly available and planted in Colorado.

Crabapples are well adapted to many soil types but appear to do best in clay loams and sandy clay loams. Soil pH should be slightly acidic to neutral to slightly alkaline (6.0 to 8.0).

Plant crabapples in full sun and where other nearby trees will not shade them excessively. Crabapples flower and fruit best in full sun, but can tolerate light shade. Where excessively shaded, crabapples become more open, flower and fruit less, and experience more problems with powdery mildew. Planting crabapples on hot south or west exposures may force them into bloom too early and thus subject the blooms to late frost damage.

Crabapples are fairly drought-tolerant once established, needing only 15 to 20 inches of annual moisture (precipitation plus any supplemental watering). Planting them in high-maintenance turfgrass generally subjects them to more water and fertilizer than they need, often resulting in more incidence of disease. A better location is in mulched beds, receiving drip irrigation or hose-end watering that avoids leaf wetting.

Crabapple varieties are usually bud grafted onto one of several different apple rootstocks. As a result, suckering at the base is common, more so on some rootstocks than others. It is important to prune out suckers or use a 'sucker-stopper' product annually. Planting a crabapple tree too deeply may increase the amount of suckering. Left alone, suckers can grow large enough to become additional trunks on the crabapple tree, but their flowers may be later and of a different color than those of the crabapple. The end result is a multiple-trunk tree that bears both crabapples and apples.

Crabapples are fairly strong-wooded and suffer little ice/snow damage. Pruning should involve early selection of scaffold branches, removal of crossing branches and branches originating too close to each other on the trunk. Depending on growth habit, lower branches may be removed to allow safe passage under the tree. Prune out 'water sprouts' that grow straight up and bear few flowers. Pruning can be done before flowering or leafing in late winter/early spring, or after blooming. Pruning should be completed by June 1 as flower buds for the following spring are initiated in June-July.

Diseases

Fire blight is a bacterial disease that results in a blow-torched appearance of leaves. Affected twigs are blackened and may develop a shepherd's crook. Fruit looks mummified. There may be sunken, discolored, or rough areas on the trunk. See fact sheet 2.907, *Fire Blight* for additional information.

Apple scab is a fungal disease that results in leaf blotches, leaf yellowing and premature leaf drop. Fruit may develop dark, leathery spots that affect its ornamental value. Avoid leaf wetting and/or plant scab-resistant varieties.

Rust is a fungal disease known as cedar-apple rust or juniper-hawthorn rust. Orange, powdery rust spots develop on the leaf undersides. Leaves drop prematurely. The alternate hosts for this rust are certain types of junipers, where the rust appears as a brown-orange gall. See fact sheet 2.904, *Juniper-Hawthorn Rust*.

Powdery mildew is a fungus that looks like flour or talcum powder sprinkled on leaves. Affected crabapple leaves may become twisted, narrowed, or otherwise distorted. Avoid excessive shading of crabapples. See fact sheet 2.902, *Powdery Mildews*.

Chlorosis is not a true disease but rather a disorder. Usually, newest growth shows leaf yellowing with veins remaining green. This lack of chlorophyll may be caused by alkaline or compacted soils, excessive watering, or excessive fertilization. Some crabapple varieties are more susceptible than others.

Pests

Aphids can rapidly develop large populations on new growth. See fact sheet 5.511, *Aphids on Shade Trees and Ornamentals* for more information.

Borers can be discouraged by keeping crabapples healthy with adequate but not excessive moisture and fertility. See fact sheet 5.530, *Shade Tree Borers*.

Spider mites may become a problem on leaves of crabapples in hot, dry locations. See fact sheet 5.507, *Spider Mites*.

Varieties (cultivars)

There are several newer dwarf (4 to 10 feet) crabapple varieties available for use in limited-space landscapes or in containers. Some of these dwarf varieties include Camelot, Cinderella, Guinevere, Lancelot, Lollipop, Madonna and Sargent Tina. Many of these are too recent to have been fully evaluated for disease resistance.

In the early 1980s, the National Crabapple Evaluation Program (NCEP) was established to rate crabapple varieties (cultivars) for their ornamental value and disease resistance. Colorado State University participated in this nationwide research program. Numerous varieties that performed well in CSU trials are included in Table 1 below.

Table 1. Available crabapple cultivars adaptable to Front Range Colorado.

Cultivar or Trade name	Tree shape; Mature size	Flower color/ timing	Fruit color/size/ persistent	Disease resistance ¹				Comments
				FB	AS	Ru	PM	
Brandywine	rounded; 15-20' tall and wide	double pink-rose/late	green/1"/no	S	S	R	R	fragrant flowers; messy fruit; maroon fall color; exfoliating bark; one of the better double-flowered cultivars
Centurion	columnar/upright; 20' x 15'	rose-red / early	glossy red/0.5"/yes	R	R	R	R	columnar when young to upright with age; yellow fall color
Coralburst	compact rounded; 12' x 15'	semi-double pink-rose/mid	none-sparse/-/-	R	R	R	R	available in tree or shrub form; good patio plant
David	compact rounded; 12' x 12'	pink balloon white/early	red/0.5"/yes	R	R	R	R	blooms and fruits heavily in alternate years
Dolgo	rounded; 25' x 25'	white/early	red/1.5"/no	S	S	R	R	large fruit can be messy; can be used for jams/jellies
Indian Magic	upright spreading; 15' x 15'	deep pink/early	red-orange/0.5"/yes	R	S	R	R	persistent red-orange fruit
Indian Summer	rounded; 18' x 18'	rose-red/early	bright red/0.5"/yes	R	S	R	R	bronze-green leaves in spring; good orange-red fall color
Lancelot	compact upright; 10' x 8'	red balloon white/early	gold/0.5"/yes	R	R	R	-	excellent for small spaces; good yellow-gold fall color
Louisa	weeping; 12' x 12'	pink/early	yellow/0.375"/yes	R	R	R	R	umbrella-shaped weeping habit
Molten Lava	weeping; 12' x 15'	white/early	bright red/0.5"/yes	R	R	R	R	abundant fruit; yellow bark
Prairiefire	spreading-rounded; 20' x 20'	red balloon purple-red/mid	purple-red/0.5"/yes	R	R	R	R	good orange-red fall color
Profusion	upright-spreading; 20' x 20'	deep pink/early	maroon/0.5"/yes	R	S	R	R	leaves purplish in spring becoming bronze
Radiant	rounded; 20' x 15'	red balloon deep pink/early	red/0.5"/yes	R	S	R	R	leaves reddish purple in spring becoming green
Red Barron	columnar; 18' x 8'	reddish pink/early	red/0.5"/yes	R	S	R	R	leaves purplish in spring becoming bronze; fruit may persist through winter
Red Jewel	upright-oval; 12' x 12'	white/early	red/0.5"/yes	S	S	R	R	abundant flowers and fruit; fruit may persist through winter
Robinson	upright-spreading; 25' x 25'	deep pink/early	dark red/0.5"/yes	R	R	R	R	fast growth; bronze-green leaves

Table 1 (continued). Available crabapple cultivars adaptable to Front Range Colorado.

Cultivar or Trade name	Tree shape; Mature size	Flower color/ timing	Fruit color/size/ persistent	Disease resistance ¹				Comments
				FB	AS	Ru	PM	
Royalty	upright-rounded; 15' x 15'	red-purple/early	dark red/0.5"/ yes	S	S	R	R	purple leaves; flowers and fruit sparse
Sargent	spreading-shrubby; 8' x 12'	white/ early	dark red/0.25"/ yes	R	R	R	R	profuse fragrant flowers and fruit but often in alternate years; fruit attractive to birds
Sargent Tina	dwarf-rounded; 5' x 6'	white/ early	bright red/ 0.25"/ yes	R	R	R	R	dwarf form; fruit attractive to birds
Sentinel	upright; 20' x 12'	red balloon, white/early	bright red/0.5"/ yes	R	R	R	R	upright form good for narrower spaces
Spring Snow	rounded; 20' x 20'	white/ early	none/-/-	S	S	R	R	fragrant flowers; bright green leaves turn yellow in fall; no fruit
Thunderchild	rounded; 15' x 15'	rose-pink/early	purple-red/0.5"/ yes	R	S	R	R	purple leaves

¹ FB = fire blight AS = apple scab Ru = cedar-apple rust PM = powdery mildew
 S = sensitive; disease incidence more likely R = resistant; disease incidence less likely



Figure 4. *Malus* 'Spring Snow'



Figure 5. *Malus* 'Royalty'

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