

Malus - Crabapple (*Rosaceae*)

Malus is known for its spectacular spring floral display, various growth habits and sizes, autumn/winter fruits, and urban tolerance. But Crabapple is also known for its potentially serious disease and pest problems that often lead to cosmetic unsightliness on the older cultivars which are now generally removed from sale.

Form



upon cultivar

-various growth habits include upright columnar, upright oval, upright rounded, horizontally spreading, or pendulous weeping, ranging from small- to medium-sized trees, and either single-trunked or multi-trunked

-medium growth rate

Culture

-full sun to partial sun

-very adaptable to poor soils, various soil pHs, soil compaction, drought, pollution, wounding, and heavy pruning (very urban tolerant)

-propagated primarily by grafting or budding onto seedling understock, but a few species or cultivars may also be grown from rooted cuttings or seeds
-Rose Family, having serious disease (foliage = fireblight, cedar apple rust, leaf spot, & powdery mildew; fruit = scab; trunk = canker) and pest (stems = scale, trunks & branches = borers, foliage = aphids) problems that plague many of the older cultivars of crabapples, but the newer releases (within the past 25 yrs.) are generally tolerant or resistant to most of the classic problems

-abundantly available in B&B form, and moderately available in container or bare root form; there are literally hundreds of cultivars, with about 30 in widespread availability

-suckers (shoots arising just below the graft collar at the base of the trunk, or directly from the roots near the trunk) should be removed on an annual or semi-annual basis, as they represent the rootstock (an entirely different Crabapple or Apple), not the grafted Crabapple cultivar

-watersprouts (shoots arising in a vertical fashion from the arching branches or trunks) should also be removed on an annual basis, as they will crowd the interior of the tree with crossing branches

Foliage

-most cultivars have leaves that are medium green to dark green, but some cultivars emerge reddish-purple and persist as a bronzed color for most of the summer

FEATURES

-small- to medium-sized ornamental tree
-maturing at up to 25' tall x 25' wide for the largest cultivars, but often one half to two-thirds of that size at maturity, depending

-deciduous, alternate, and simple leaves are usually serrated but are sometimes dentate, incised, or lobed
-autumn color is usually insignificant and often a subtle mixture of yellowish green, yellow, red, orange, purple, and/or green leaves

Flowers

-white, pink, or red, sometimes with a darker colored floral bud

-inflorescences are usually single-flowered, but double-flowering forms exist

-flowers emerge before (or with) the foliage and are typically spectacular in Apr. or May

-flowering of individual Crabapple trees often occurs in "alternate year cycles", meaning that a year of heavy flowering (and fruiting) will be followed by a year of modest flowering (and fruiting)



Fruits

-cherry red, maroon, golden-yellow, faded yellow, orange, or green, often in dense showy clusters, maturing in Sept. and Oct. and often persisting at least into Dec.

-the definition of a Crabapple tree is that its fruits are 2" in diameter or less (most modern cultivars are 0.25-0.75" in diameter); if the fruits are more than 2" in diameter, it is defined as an Apple tree

Twigs

-red-brown to gray-brown, with terminal shoots having a medium growth rate, but the numerous spur shoots that bear flowers and fruits have an extremely slow growth rate

Trunk

-gray, tan, brown, or reddish-brown bark

-often single-trunked and branching low, or multi-trunked

-bark is smooth in youth, but quickly becomes exfoliating or lightly furrowed, and is often knotty where branches and watersprouts have been pruned away and healed over

-trunks are often leaning with age, due to heavy fruit loads and semi-pendulous lower branches

-canopy branches often repeatedly arch due to seasonal fruit loads, and each arch often has vertical watersprouts that occur where the branch became exposed to sunlight

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Function

- specimen, focal point, entranceway, foundation, border, or street ornamental tree
- the most common ornamental tree for northern climates

Texture

- medium texture in foliage and when bare
- average to thick density in foliage and when bare

Assets

- very showy spring flowering
- ornamental autumn fruits, with many cultivars having winter persistent fruits (which also attract wildlife)
- urban tolerant and highly adaptable to different environments
- rapid establishment (due to quick root regeneration)
- abundant availability of many cultivars
- most modern cultivars have tolerance or resistance to most of the common diseases and pests that plague Rose Family members, including Crabapples

Liabilities

- for many of the older cultivars, serious cosmetic disease and pest problems are often present (including fireblight, cedar apple rust, apple scab, leaf spot, powdery mildew, canker, scales, borers, and aphids), often leading to premature defoliation, premature fruit drop, or even canopy dieback
- optimal pruning of suckers, watersprouts, lower branches, crossing branches, and thinning the interior of the canopy on a regular basis to maintain neatness and vigor
- alternate-year flowering and fruiting cycles (heavy vs. light loads) are common for individual trees of most cultivars
- winter fruit litter in non-lawn areas (a liability for pedestrians to walk on, or to fall on parked automobiles)
- tree may develop surface roots with age
- trunk (and often the tree along with it) may lean with age

Habitat

- typically zones 4 to 8
- the various species are native to Europe, North America, and Asia

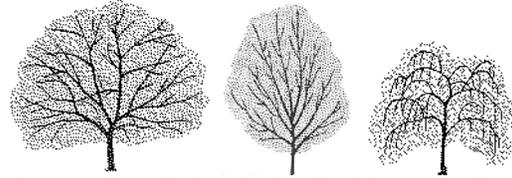
SELECTIONS

Alternates

- profuse spring-flowering small trees (*Cercis canadensis*, *Cornus florida*, *Crataegus viridis* 'Winter King', *Prunus serrulata* 'Kwanzan', *Viburnum lentago* [treeform], etc.)
- trees with attractive autumn and winter fruits (*Alnus glutinosa*, *Carpinus caroliniana*, *Crataegus phaenopyrum*, *Koelreuteria paniculata*, etc.)
- trees with red or purplish spring foliage (*Acer palmatum* 'Bloodgood', *Acer platanoides* 'Crimson King', *Cercis canadensis* 'Forest Pansy', *Fagus sylvatica* 'Riversii', *Prunus cerasifera* 'Mt. St. Helens' ['Mount St. Helens'], etc.)
- ornamental trees with weeping or horizontal growth

habits (*Acer palmatum* 'Crimson Queen', *Crataegus crusgalli*, *Morus alba* 'Chaparral', *Prunus* x 'Snow Fountains', etc.)

Cultivars - Variants - Related species



- there are literally hundreds of cultivars, varying in mature size, growth habit, floral bud vs. opened flower color, single or double flowers, fruit color and size, and disease and pest resistance (or tolerance); a few representatives are listed below:
 - Malus* 'Harvest Gold' - rounded habit (20' x 15'), pink buds, white flowers, golden-yellow fruits persistent into Dec., salt spray tolerant
 - Malus* Madonna™ - upright habit (20' x 10'), pink buds, white double flowers, golden-red fruits, green foliage that emerges bronzed
 - Malus* 'Prairifire' (also spelled 'Prairie Fire') - upright rounded habit (18' x 18'), carmine buds, very dark pink flowers, maroon winter persistent small fruits, dark reddish brown winter stems, very disease and pest resistant
 - Malus* 'Red Jade' - weeping habit (10' x 10'), pink buds, white flowers, shiny bright red fruits that look like they are on long chains
 - Malus* 'Robinson' - upright spreading habit (25' x 25'), red buds open to deep pink flowers, dark red fruits, foliage emerges bronzed and fades to medium green, very fast growing and recovers extremely rapidly from root pruning
 - Malus* "Round Table Series" - recently released by Lake County Nursery in Perry, OH, 9 genetically dwarf cultivars (not listed here) mature at around 10' tall and come with a variety of ornamental traits, and are disease and pest resistant
 - Malus* 'Royalty' - rounded habit (15' x 15'), dark red buds and dark red flowers, dark red fruits, shiny purple foliage slowly changing to a dark purple-green (apple scab and leaf spot susceptibility of this cultivar do not cause loss of ornamental value in this case)
 - Malus* 'Sentinel' - upright columnar habit (20' x 10'), pink buds and pink flowers, red fruits, good for street tree use
 - Malus* 'Spring Snow' - rounded habit (20' x 15'), white flowers in profuse abundance every single year, no fruits, bright green foliage
 - Malus* Sugar Tyme™ - upright oval habit (20' x 15'), one of the most popular new cultivars, pink buds opening to sugary white flowers, cherry red winter persistent fruits, very disease and pest resistant
 - Malus sargentii* - Sargent Crabapple - horizontal spreading habit (10' x 15'), red buds, white flowers, cherry-red winter persistent fruits