European Cotoneaster

European Cotoneaster *(Cotoneaster integerrimus)*

General Description

European Cotoneaster is a large shrub native to Europe, western Asia and Siberia. 'Centennial' was released by the Natural Resources Conservation Service, Plant Materials Center at Bismarck. Produces showy red fruits.

Leaves and Buds

Bud Arrangement - Alternate.

Bud Color - Brown to pale gray.

Bud Size - 1/8 inch long.

Leaf Type and Shape - Simple, elliptic-ovate with an acute point.

Leaf Margins - Entire with no serrations.

Leaf Surface - Glabrate upper, hairy beneath.

Leaf Length - 3/4 to 1½ inches.

Leaf Width - 1/2 to 1 inch.

Leaf Color - Dark blue-green above, whitish-gray hairs below; yellow fall color.

Flowers and Fruits

Flower Type - Borne in 2-5 flowered cymes.

Flower Color - Pinkish-white.

Fruit Type - Berry-like pome.

Fruit Color - Rosy-red.

Form

Growth Habit - Spreading, open and upright arching branches, large shrub.

Texture - Medium-fine, summer; medium, winter.

Crown Height - 8 to 12 feet.

Crown Width - 8 to 12 feet.

Bark Color - Glossy-brown.

Root System - Fibrous, spreading.

Environmental Requirements

Soils

Soil Texture - Adapted to a variety of soils.

Soil pH - 5.0 to 7.5. Not adapted to alkaline or saline soils.

Windbreak Suitability Group - 1, 3, 4, 4C, 5.

Cold Hardiness

USDA Zone 3.

Water

Likes sites with moisture or high water table. Does not do well on droughty or poorly-drained soils.

Light

Full sun or light shade.

Uses

Conservation/Windbreaks

A tall shrub for farmstead and field windbreaks.

Wildlife

Fruit attracts many species of birds.

Agroforestry Products

No known products.

Urban/Recreational

Wide variety of uses in landscaping.

Cultivated Varieties

Centennial Cotoneaster (*Cotoneaster integerrimus* 'Centennial') - Introduced by USDA-NRCS, Plant Materials Center, Bismarck, North Dakota, as a cultivar seed strain.

Related Species

Hedge Cotoneaster (*Cotoneaster lucidus*)

Pests

Common diseases include fireblight. Common insect pests include pear slug. Cotoneaster should not be planted near ornamental or orchard apples due to increased risk of fireblight damage to the crabapples/apples.

Cotoneaster

Cotoneaster acutifolia

Growth Form: ovoid to irregular
Crown Density: dense
Size: 6-8 feet high
3-5 foot spread
Drought Resistance: very good
Cold Hardiness: excellent
Growth Rate: rapid
Life Span: moderate
Elevational Range: to 9,500 feet
Soil Conditions: good alkaline tolerance
Possible Insect Problems: oyster shell scale
Possible Disease Problems: fireblight; fairly resistant
Wildlife Value: high: song and game birds
Seasonal Color: brilliant red-orange foliage
Miscellany: can be clipped to a hedge

Taken from: Trees for Conservation, a buyer's guide, Colorado State Forest Service

Cottonwood

Cottonwood (*Populus deltoides*)

General Description

The largest and fastest growing tree in the state. Native to moist soils along streams and wetlands throughout the state. Flood control dams have reduced spring flooding and the success of natural cottonwood regeneration along riparian areas. The largest living tree in North Dakota is 110 feet tall with a canopy spread of 94 feet.

Leaves and Buds

Bud Arrangement - Alternate.

Bud Color - Chestnut-brown, sticky, conical.

Bud Size - Medium, 1/2 to 3/4 inch long.

Leaf Type and Shape - Simple leaves, triangular-cordate, acuminate tips, petioles are flattened.

Leaf Margins - Coarsely-dentate with curved teeth, entire near apex and base.

Leaf Surface - Glabrous.

Leaf Length - 3 to 5 inches.

Leaf Width - 3 to 5 inches.

Leaf Color - Lustrous, bright-green during summer, golden-yellow in late fall.

Flowers and Fruits

Flower Type - Unisexual catkins on female trees bear many seeds surrounded by silky or cottony hairs.

Flower Color - Tiny brownish-red flowers early in spring.

Fruit Type - Capsule, 3 to 4 valved.

Fruit Color - Light brown, seeds in a mass of “cotton”.

Form

Growth Habit - Upright and narrow when young; branches spread to form a large open crown with age.

Texture - Coarse, summer; coarse, winter.

Crown Height - 50 to 100 feet.

Crown Width - 40 to 75 feet.

Bark Color - Light-gray when young, turning ash-gray and forming thick, flattened, curved ridges separated by deep furrows on older trees.

Root System - Shallow and wide-spreading, greater than height.

Environmental Requirements

Soils

Soil Texture - Loams to sands are most favorable.

Soil pH - 4.5 to 8.0. More alkaline tolerant than *Populus* cultivars.

Windbreak Suitability Group - 1, 1K, 2, 2K.

Cold Hardiness

USDA Zone 2.

Water

Requires a moist site. Tolerates drought on upland sites with high water table.

Light

Requires full sun.

Uses

Conservation/Windbreaks

Tall tree for field and farmstead windbreaks and riparian plantings.

Wildlife

Hollow trees make ideal den sites for wildlife. Young trees are used by deer, rabbits, mice and beaver for food.

Twigs and young branches make good browse. Buds used by grouse.

Agroforestry Products

Wood - Used for making boxes, crates, and pallets.

Food - Native Americans ate the young sprouts and inner bark because of its nutritive value and sweetness.

Medicinal - *Populus* species contain salicin used as an anti-rheumatic drug, a disinfectant, an antiseptic and for eczemas.

Urban/Recreational

Primarily used as a massive shade tree in river side parks or other low, moist areas.

Cultivated Varieties

Siouxland Cottonwood (*Populus deltoides* ‘Siouxland’) - Male, rust resistant cultivar released by SDSU, Brookings, South Dakota.

Carolina Poplar (*Populus* x *euramericana*) - Hybrids of *P. deltoides* and *P. nigra* (Black Poplar), native to Europe (see Hybrid Poplar).

Many hybrid cultivars are similar but do not achieve similar heights or girth of native cottonwoods.

Related Species

Balsam Poplar (*P. balsamifera*)

White Poplar (*P. alba*)

Pests

Common diseases include Melampsora leaf rust, Septoria leaf spot and canker, Cytospora canker, wetwood, and stem decay. Common insect pests include poplar borer, aphids, poplar bud gall mite, poplar vagabond aphid and poplar leaf beetles.

USDA NRCS
United States Department of Agriculture
Natural Resources Conservation Service

Plant Fact Sheet

EASTERN COTTONWOOD

Populus deltoides Bartr. ex Marsh.

Plant Symbol = PODE3

Contributed by: USDA NRCS Plant Materials Program

Robert Mohlenbrock
USDA NRCS 1995 Northeast Wetland Flora
@USDA NRCS PLANTS

Uses

Timber: The wood of eastern cottonwood is light, soft, and weak. It is not durable, warps badly in drying, and is difficult to season. It is used principally for containers, interior parts of furniture, corestock in plywood, and high-grade pulp.

Erosion control: It is planted on strip mine spoils for erosion control and wood production. Male, non-hybrid adapted clones make good selections for windbreaks in multi-row installations.

Recreation: Due to its rapid growth rate, it is frequently used for providing quick shade around recreational developments, campsites and picnic areas.

Landscape and beautification: This species is occasionally planted as an ornamental shade tree, however caution should be used because the tree grows large and is susceptible to wind and ice damage.

Wildlife: Seedlings and young trees are browsed by rabbits, deer, and domestic stock. Beavers use saplings and poles for food and dam construction.

Status

Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g. threatened or endangered species, state noxious status, and wetland indicator values).

Description

Populus deltoides Bartr. ex Marsh., eastern cottonwood, is a fast-growing tree which reaches 80 to l00 feet in height and 3 to 4 feet in diameter. It is a relatively short-lived tree, seldom surviving for more than 80 years.

The leaves are broadly triangular, ovate in outline, 3 to 5 inches long and nearly as wide. They are dark green, lustrous above, and paler and smooth beneath. The marginal teeth are somewhat hooked, being larger toward the leaf base and smaller toward the pointed tip.

Twigs are rather stout, round, and distinctly enlarged at the nodes. The conical, pointed buds are smooth, glossy, and olive-brown to reddish-brown in color. The bark of younger trees is rather smooth and greenish-gray. On older trunks it becomes ashy-gray and is roughened by long, deep, longitudinal and interconnecting furrows.

Adaptation and Distribution

Cottonwood makes its best growth on moist, well-drained, fine sandy loams or silt loams. Coarse sands and heavy clay soils are not satisfactory. It has been found to be relatively tolerant of drier sites as shown by survival and growth of trees planted on strip mine spoil. Cottonwood is resistant to flood damage and usually tolerates a soil pH range of 4.5 to 8.0.

Eastern cottonwood is distributed throughout the East and Midwest. For a current distribution map, please consult the Plant Profile page for this species on the PLANTS Website.

Establishment

Natural regeneration of cottonwood is usually by seed. Propagation by cuttings is the usual method of vegetative reproduction. The best planting stock is unrooted cuttings from 1 to 3 year old seedlings.

Cuttings are planted while dormant with sufficient cultivation to reduce competition.

Management
If this tree is planted for intensive culture management care must be taken to reduce completion from weed and other unwanted vegetation. On wide spacing, disking between the rows can be used to control vegetation. Care must also be taken to avoid over grazing by deer and other animals. Around buildings the plant may prove to be a nuisance. The silky-haired seeds of the female plants can clog gutters and the shallow root system may interfere with sewer lines.

Pests and Potential Problems
Eastern cottonwood can be seriously damaged by wood boring insects that attacks the main stem, branches and root system. Many leaf feeding insects can also reduce the growth and vigor of young trees. Leaf rust, leaf spot, and cankers reduce tree vigor and growth and in severe cases cause tree mortality.

Cultivars, Improved, and Selected Materials (and area of origin)
'Siouxland' cottonwood, is highly resistant to leaf rust and similar leaf attacking fungi. 'Siouxland' is a male plant, and therefore, does not produce the silky-haired "cotton" which many people consider a nuisance. Since there is no seed, the plant must be grown from cuttings.

Populus robusta, which is most likely a cross between *Populus nigra* and *Populus angulata*, is very similar to 'Siouxland' in appearance except that it is narrower and branches more widely. The foliage is also resistant to rust fungi. *Populus robusta* is a frost hardy, rapid grower. Other selections include 'Noreaster', 'Mighty Mo', 'Platte', 'Ohio Red', 'Lydick', 'Schictel', 'Spike'(cross between *Populus deltoides* and *Populus nigra*, from the New York Plant Materials Center, original material from the Netherlands) and 'Walker'. These selections show various levels or resistance from leaf rust and canker infestations.

Rooted cuttings and seedlings of 'Siouxland' and *Populus robusta* can be purchased from many hardwood nurseries. Other selections are more difficult to obtain, but worth the effort.

Prepared By & Species Coordinator:
USDA NRCS Plant Materials Program

Edited: 05Feb2002 JLK; 060809 jsp

For more information about this and other plants, please contact your local NRCS field office or Conservation District, and visit the PLANTS Web site<http://plants.usda.gov> or the Plant Materials Program Web site <http://Plant-Materials.nrcs.usda.gov>

Eastern cottonwood
Populus deltoides

Physical characteristics

Trunk | Bark: The bark of a mature cottonwood is so thick that it can withstand fires with just minimum damage. Yet, they are also known for having "weak" wood and will drop branches occasionally, particularly during windy spells.

Leaf: The leaf is very coarsely toothed, the teeth are curved and gland tipped, and the petiole is flat. The leaves are dark green in the summer and turn yellow in the fall. In dry locations they drop their leaves early from the combination of drought and leaf rust, leaving their fall color dull or absent.

"Trembling Leaves"

An identifying characteristics of the Eastern Cottonwood tree is that beacuase its leaves are sail-like shaped with long flat stems they have a tendency to tremble and flutter from even the slightest breeze.

Flower | Seeds: Its flowers, called catkins, are produced on single-sex trees in early spring. In early summer seed capsules split open to release the numerous small seeds attached to cotton-like strands.

Life span: Eastern cottonwoods typically live 70 to 100 years, but they have the potential to live 200 to 400 years if they have a good growing environment.

Ecological characteristics

In natural conditions, Eastern cottonwood trees typically grow near a water source. Cottonwood groves are typically indicitive that a water source is nearby as they consume large amounts of water in their growth cycle; a mature cottonwood tree uses 200 gallons of water a day. Cottonwoods are so dependent on water that they will drop leaves during an extended period of drought in order to conserve moisture. If a cottonwood root is cut, it will "bleed" water for days until the cut heals.

Distribution range

While mud banks left after floods provide ideal conditions for seedling germination, human soil cultivation has allowed them to increase their range away from such habitats. The Eastern cottonwood is native to North America, growing throughout the eastern, central, and southwestern United States, the southernmost part of eastern Canada, and northeastern Mexico.

Relationship with other species

Non-human: When a cottonwood loses a branch, it is likely the heartwood will begin to rot at the break, forming holes that make the ideal accommodations for birds, squirrels or bees to build nests.

Humans: American pioneers used the cottonwood's leaves for animal fodder and herbal teas, its canopy for shelter and its wood for fire and crafts.

Though cottonwood pollen aggravates allergies, these large, adaptable and hearty trees provide shade and beauty across the country.

When used in home landscapeing to provide cooling shade, space requirements can become an issue. As the tree matures, its roots will lift the soil surrounding the tree, referred to as root flair.

Pests: Once past the seedling-sapling size, cottonwood trees have few significant insect or disease pests. Leaf feeding insects and leaf diseases are not uncommon, but rarely injurious.

Siouxland Poplar

Populus deltoides (Siouxland)

Mature

Flower

General Attributes

Type	Deciduous Tree
Height	70 - 90 Feet
Spread	40 - 40 Feet
Form	Rounded
Utility Lines	Incompatible
Growth Rate	Fast
Life Expectancy	Medium
USDA Zone	3 - 5
Root Pattern	Shallow Lateral

Plant Community

Sun	Full Sun
Orientation	North, South, East, West
Soil Texture	Sandy Loam to Clay
Topography	Upland, Lowland (Flood Prone), Lowland (Stable Water), Wetland
Plant Community	Forest, Savannah
Succession	Pioneer
Origin	North America

Flowers/Foliage/Fruits

Flower Color	
Flower Season	Spring
Fruit	Seedless
Fruit Color	
Fruit Season	
Summer Texture	Coarse
Winter Texture	Coarse
Spring Foliage	Green
Summer Foliage	Green
Fall Foliage	Yellow
Winter Foliage	Not Applicable

Soils

Salt Spray Tolerance	Tolerant
Soil Salt Tolerance	Tolerant
Compaction Tolerance	Tolerant
Water Table	12 Inches
Drainage	Poor, Excessive, Moderate
Flood Tolerance	
Drought Tolerance	
Moisture Regime	Dry, Moist, Wet
pH	6.0 through 8.0
Windbreak Group	

Siouxland Poplar

Populus deltoides (Siouxland)

Planting Ease

Spring Bareroot	Easy
Fall Bareroot	Difficult
Spring Container	Easy
Fall Container	Easy
Spring Seed	
Fall Seed	

Maintenance

Formal	Moderate
Informal	Low
2,4-D Tolerance	Sensitive
Dicamba Tolerance	Sensitive
Picloram Tolerance	Sensitive
Clopyralid Tolerance	
Artificial Light	Sensitive
Sulfur Dioxide	Tolerant
Ozone Tolerance	Sensitive
Hydrogen Flouride	
Nitrogen Oxide	

Pests/Problems

Allergens	males 9, females 1
Invasiveness	Non-Invasive
Toxicity	
Cold Injury	Not Susceptible
Storm Damage	Susceptible
Biological Control	
Mechanical Control	
Chemical Control	

Miscellaneous

Wildlife Rating	Low
Insect Concerns	Minor
Disease Concern	Major
Wildlife Concerns	

Comments

Good roadside tree. Seedless Cottonwood , that is a male selection from South Dakota State University. Susceptible to canker after 18-20 years. Hardiness south of zone 4 is unknown.

Bark

Dormant

Flowering Crabapple

Flowering Crabapple (*Malus* hybrids)

General Description

Ornamental crabapples are a group of small flowering trees used for landscape plantings. They are valued for their foliage, flowers, fruit and variations in form and size.

Leaves and Buds

Bud Arrangement - Alternate.

Bud Color - Reddish-brown, with several imbricate scales.

Bud Size - 1/8 to 1/4 inch.

Leaf Type and Shape - Simple, ovate to elliptical-oblong.

Leaf Margins - Finely-serrate to irregularly toothed or lobed.

Leaf Surface - Variable, glabrous to pubescent.

Leaf Length - 1½ to 3¼ inches.

Leaf Width - 3/4 to 2 inches.

Leaf Color - Dark or olive-green above, paler green beneath; yellow fall color. Cultivars with variable purplish leaf colors are also planted.

Flowers and Fruits

Flower Type - Umbel or corymb-like racemes.

Flower Color - White to pink to rose to carmine-red shades.

Fruit Type - A pome with persistent or deciduous calyx. If fruit is less than 2 inches in diameter it is typically classified as a crabapple.

Fruit Color - Range from red to yellow to green.

Form

Growth Habit - Range from tall informal-spreading to densely-oval, globose, narrow-upright or pendulous forms.

Texture - Medium-fine, summer; medium, winter.

Crown Height - 10 to 25 feet.

Crown Width - 15 to 25 feet, except narrow-upright cultivars.

Bark Color - Gray-brown to reddish-brown.

Root System - Spreading, fibrous.

Environmental Requirements

Soils

Soil Texture - Adapted to a variety of soils, prefers a heavy loam soil.

Soil pH - 5.0 to 7.5, prefers slightly acidic soils.

Windbreak Suitability Group - 1, 3, 4, 4C, 5, 6D, 6G.

Cold Hardiness

USDA Zone 3.

Water

Prefers well-drained, moist soils. Moderately drought tolerant. Tolerance varies by hybrid parentage.

Light

Full sun.

Uses

Conservation/Windbreaks

Small tree for farmstead windbreaks and highway beautification.

Wildlife

Crabapples provide fair cover and high quality fruit and browse for many birds and mammals. Rodents and rabbits can destroy trees by girdling the stem or trunk.

Agroforestry Products

Wood - Desirable for smokehouse kindling and firewood.

Food - Fruit used fresh or processed.

Medicinal - Used as an antibiotic and for indigestion, dysentery and diarrhea.

Urban/Recreational

Used for ornamental landscaping, specimen, shade tree, boulevards and screens.

Cultivated Varieties

Malus x 'Centurion' - Rose-pink flowers.

M. x 'David' - White flowers, red fruits.

M. x 'Hopa' - South Dakota introduction. Old pink-flowered, apple scab susceptible cultivar.

M. x 'Kelsey', 'Selkirk', 'Thunderchild' - Canadian cultivars with rose-pink flowers. 'Thunderchild' has purple leaves and is disease resistant.

M. x 'Radiant', 'Red Splendor' 'Vanguard' - Minnesota cultivars. All have pink to rose-pink flowers.

M. x 'Spring Snow' - White flowers, no fruits, sterile.

Related Species

Common Apple (*Malus pumila*)

Siberian Crabapple (*Malus baccata*)

Pests

Disease pests include fireblight, apple scab, frogeye leaf spot (black rot). Insect pests include cankerworms, fall webworm and apple maggot. Cultivars have variable resistance to many of these pests. Extracts of fruit have been used as an attractant to trap insect pests.

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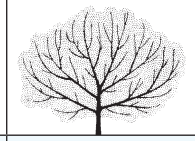
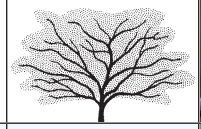
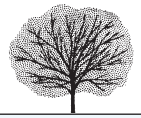
Crabapple Information Chart

NAME			SIZE H	SIZE W	SHAPE	FOLIAGE	FLOWER	FRUIT	DISEASE RESISTANCE: SCAB	FIRE-BLIGHT	CEDAR-APPLE RUST	MILDEW
Malus 'Adams' **Adams Crabapple** Deep pink buds open to single pink blooms. This reliable performer has symmetrical form.			20	20	Dense, rounded	Green with reddish tint in spring	Deep pink buds open to pink blooms, single	Red, ⅝" persistent	Good	Excel.	Excel.	Good
Malus 'Adirondack' **Adirondack Crabapple** Adirondack is an important cultivar because of its form and outstanding flower display. It is a compact, dense tree with strongly upright form. It produces one of the heaviest flower displays of the crabs. A Don Egolf, U.S. National Arboretum introduction.			18	10	Densely upright, inverted cone	Medium green	White	Bright red, ½"	Excel.	Excel.	Excel.	Excel.
Malus 'Cardinal' PP 7147 **Cardinal Crabapple** Foliage holds its rich color through the summer and has the best disease resistance of crabs with deep purple leaf color. Flowers of this *Malus hupehensis* hybrid are bright magenta-pink to red.			16	22	Broadly spreading	Dark purple-red, glossy	Magenta-pink to red	Deep red, ½"	Excel.	Good	Excel.	Excel.
Malus 'Centzam' **Centurion® Crabapple** Red buds open to rosy red flowers. Form is strongly upright when young, becoming upright-spreading as it matures.			20	15	Narrow, upright	Reddish-purple, fading to bronze-green in summer	Rose-red	Bright red, ⅝"	Good	Excel.	Excel.	Excel.
Malus 'Coralcole' **Coralburst® Crabapple** Top grafted on a 4' standard, Coralburst® is slow growing and forms a very dense, symmetrically rounded head.			15	15	Compact, dense, rounded	Dark green	Coral pink buds, double rose colored flowers	Bronze, ½"	Fair	Excel.	Excel.	Excel.
Malus 'Dolgo' **Dolgo Crabapple** One of the hardiest and earliest of the crabapples to bloom, pink buds of Dolgo open to large, fragrant white flowers. Abundant fruits ripening in mid-summer are edible and excellent for jelly.			30	25	Upright, spreading, open	Green, glossy	White, 1¾", single	Red, 1½", edible	Good	Good	Excel.	Excel.

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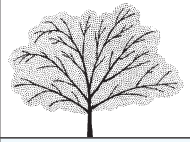
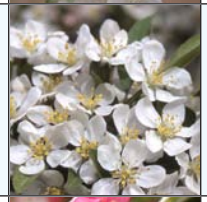
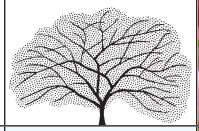
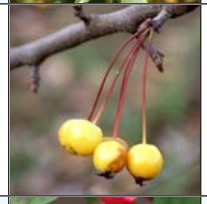
Crabapple Information Chart

NAME			SIZE H	SIZE W	SHAPE	FOLIAGE	FLOWER	FRUIT	DISEASE RESISTANCE: SCAB	FIRE-BLIGHT	CEDAR-APPLE RUST	MILDEW
Malus 'Donald Wyman' **Donald Wyman Crabapple** Glossy clean foliage gives the tree a fresh appearance all summer. Small bright red fruit is among the most persistent of all crabapples.			20	24	Rounded	Medium green, glossy and clean	Single, white	Bright red, ⅜", abundant, persistent	Good	Fair	Excel.	Good
Malus sargentii 'Select A' PP 12621 **Firebird® Crabapple** This compact selection of *M. sargentii* features long lasting, high quality fruit. Annual fruit display is more persistent than any other natural dwarf crabapple.			8	10	Rounded, spreading	Dark green	White, opening from red buds	Bright red, ⅜" persistent	Excel.	Excel.	Excel.	Excel.
Malus floribunda **Floribunda Crabapple** An old variety, proven over the years to be one of the best. Very graceful habit with irregular spreading branches produces a fine winter silhouette.			18	25	Horizontally spreading, irregular	Green	Pink buds maturing to white single flowers	Yellow-red, ⅜"	Good	Fair	Excel.	Good
Malus 'Schmidtcutleaf' **Golden Raindrops® Crabapple** Fine textured, deeply cut foliage gives this unusual crab a delicate appearance. The form is elegant, with slender limbs spreading horizontally from upright branches.The abundant golden yellow fruit is truly tiny.			20	15	Upright, vase shaped	Green, deeply cut	Delicate and starlike, white, profuse	Golden yellow and tiny, ¼"	Excel.	Poor	Excel.	Excel.
Malus 'Hargozam' **Harvest Gold® Crabapple** One of the best yellow fruited crabs, it features neat, crisp, dark green foliage and an upright branch habit.			22	18	Upright oval	Dark green	White	Yellow, ½", persistent	Fair	Fair	Good	Good
Malus 'Indian Magic' **Indian Magic Crabapple** Bright red elongated fruit is of unusual shape and makes this tree beautiful in fall.			15	15	Upright, spreading	Dark green	Deep pink, 1½", single	Orange red, ½", persistent	Fair	Good	Good	Excel.

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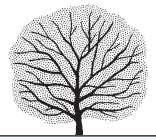
Crabapple Information Chart

NAME			SIZE H	SIZE W	SHAPE	FOLIAGE	FLOWER	FRUIT	DISEASE RESISTANCE: SCAB	FIRE-BLIGHT	CEDAR-APPLE RUST	MILDEW
Malus ioensis 'Klehm's Improved Bechtel' **Klehm's Improved Bechtel Crab** Beautiful and fragrant double pink flowers distinguish this selection of the native Prairie Crab. It blooms late in the season.			20	18	Rounded	Medium green	Fragrant, double pink. A late season bloomer	Green,sparse, 1⅛"	Fair	Fair	Poor	Excel.
Malus 'Lollizam' **Lollipop® Crabapple** A compact dwarf tree, perfect for formal gardens, patios and courtyards. Fine textured small leaves and dense growth habit create a very symmetrical, globe shaped head. It presents a neat and formal appearance throughout the year.			10	10	Round, compact	Green	White	Yellow, ⅜"	Good	Good	Excel.	Excel.
Malus 'Louisa' **Louisa Crabapple** A pink flowered weeping crab with excellent form and dark green, glossy foliage.			10	12	Weeping	Dark green, glossy	True pink	Yellow, ⅜"	Excel.	Good	Good	Good
Malus 'Jarmin' PP 14337 **Marilee® Crabapple** Pink buds open to unusually large, white, double blooms. Unique for its stiffly upright, narrow form and virtually fruitless nature, it is an excellent choice for courtyard settings and streetscapes, and for use near utility lines.			24	10	Narrow upright, inverted cone	Medium green	Double, large white	Virtually fruitless	Good	Good	Good	Excel.
Malus 'Perfect Purple' **Perfect Purple Crabapple** Deep pink blooms set the spring stage for dark purple foliage that crowns the perfectly rounded canopy of this attractive tree. Very cold hardy, this crab has performed well in the North and Inter-mountain regions.			20	20	Rounded	Deep purple	Deep pink to rose red	Purple red,	Fair	Fair	Good	Excel.
Malus 'Parrsi' **Pink Princess™ Crabapple** A pink flowered, red leaf form of Sargent Crab. A naturally dwarf tree with all the desirable features of Sargent, but in a new color.			8	12	Low, spreading	Purple becoming bronze-green	Rose pink	Deep red, ¼"	Excel.	Excel.	Excel.	Excel.

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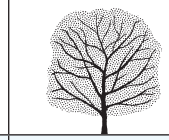
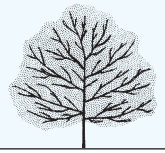
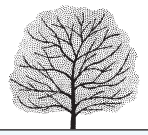
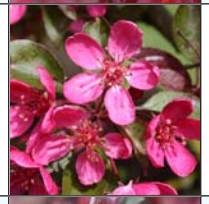
Crabapple Information Chart

NAME			SIZE H	SIZE W	SHAPE	FOLIAGE	FLOWER	FRUIT	DISEASE RESISTANCE: SCAB	FIRE-BLIGHT	CEDAR-APPLE RUST	MILDEW
Malus ioensis 'Prairie Rose' **Prairie Rose Crabapple** Large and fragrant double pink flowers look like miniature rosebuds. Introduced by University of Illinois, this selection of the midwest native crabapple is welcomed for its fruitless character.			20	18	Rounded	Medium green	Double, deep pink, fragrant	Usually fruitless	Good	Fair	Poor	Good
Malus 'Prairifire' **Prairifire Crabapple** One of the best red leafed crabs, Prairifire has impressive landscape impact. Attributes include long lasting bright red flowers, excellent red fruit, and attractive reddish bark.			20	20	Upright, spreading, becoming rounded	Red-maroon, aging reddish green	Crimson buds, bright pinkish red, single flowers	Dark red, 3/8"-1/2", persistent	Excel.	Good	Excel.	Excel.
Malus 'Professor Sprenger' **Professor Sprenger Crabapple** Red buds open to fragrant pink and white flowers. More upright in habit and larger in size than most crabs, it features unusual orange-red fruit.			20	20	Upright, spreading	Green	Pink buds open to white single flowers	Orange-red, 1/2", persistent	Excel.	Fair	Excel.	Excel.
Malus 'Profusion' **Profusion Crabapple** A popular variety with deep pinkish red flowers and maroon fruit.			20	20	Upright, spreading	Purplish when young, fading to bronze	Deep pink, single	Maroon, 1/2", persistent	Fair	Good	Excel.	Good
Malus 'Purple Prince' PP 8478 **Purple Prince Crabapple** An outstanding rosy bloom crab. The purple bronze foliage and bright flowers rival Liset, but Purple Prince does not suffer from stem splitting and is faster growing. This is probably the best purple foliaged crab for growers.			20	20	Rounded	Purple, becoming bronze green	Rose red	Maroon, 3/8"-1/2"	Excel.	Good	Excel.	Good
Malus 'Radiant' **Radiant Crabapple** A hardy University of Minnesota introduction, this tree resists fireblight and performs well in the Rocky Mountain and inter-mountain states.			25	20	Broad, rounded crown	Red-purple when young, maturing to green.	Deep red buds, single deep pink flowers	Bright red, 1/2"	Poor	Excel.	Good	Fair

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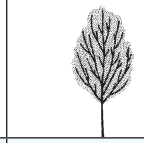
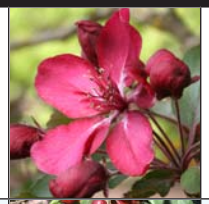
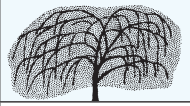
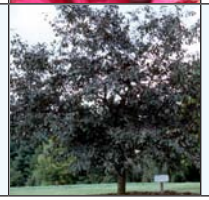
Crabapple Information Chart

NAME			SIZE H	SIZE W	SHAPE	FOLIAGE	FLOWER	FRUIT	DISEASE RESISTANCE: SCAB	FIRE-BLIGHT	CEDAR-APPLE RUST	MILDEW
Malus 'Red Barron' **Red Barron Crabapple** Ascending branch structure, narrow form and adaptability to urban conditions have earned Red Barron a place on our UtiliTrees™ list.			18	8	Narrow, columnar	Reddish-purple, maturing to bronze-green	Dark red, single	Dark red, ½"	Fair	Good	Excel.	Excel.
Malus 'Red Jade' **Red Jade Crabapple** Desirable for its graceful form, white flowers, and its abundant cherry red fruit. Like many of the weepers, it looks its best when grown as a solitary specimen.			10	15	Long, graceful, slender weeping branches	A glossy vibrant green	Deep pink buds, white flowers	Bright glossy red, ½", abundant, persistent	Fair	Fair	Excel.	Fair
Malus 'Jewelcole' **Red Jewel™ Crabapple** Bright red fruits are among the most profuse and persistent of any crab, holding fast until spring in mild winter areas, when they are replaced by an abundance of white blooms.			15	12	Upright and pyramidal	Green	Pure white, single	Brilliant red, ½", persistent	Good	Fair	Excel.	Good
Malus 'Robinson' **Robinson Crabapple** The fastest growing crabapple—it becomes established and makes an impact in the landscape quickly, yet matures at normal crabapple size.			25	25	Upright, spreading with age	Bronze-green, good fall color	Buds crimson, single flowers deep pink	Dark glossy red, ⅜"	Good	Excel.	Excel.	Excel.
Malus 'JFS-KW5' PP 14375 **Royal Raindrops® Crabapple** Bright pinkish red flowers combine with deep purple cutleaf foliage to present a unique new crab. Deeply lobed leaves and upright form with good branching and density are inherited from its Golden Raindrops® parent. Nursery growth is outstanding, and it displays good to excellent resistance to the common diseases. www.RoyalRaindrops.com			20	15	Upright, spreading	Purple, cutleaf	Bright pinkish-red	Red, ¼", persistent	Excel.	Good	Excel.	Good
Malus 'Royalty' **Royalty Crabapple** Perhaps the first purple leaf flowering crab to challenge the purple leaf flowering plums. Flowers are almost the same color as the leaves.			15	15	Upright, rounded	Dark purple, much like a purple leaved plum	Purple to crimson, single	Dark red, ⅝"–¾"	Poor	Fair	Excel.	Excel.

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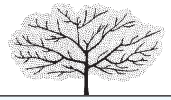
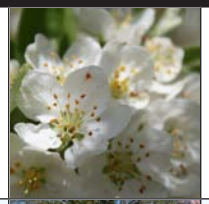
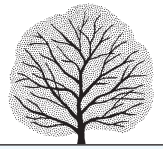
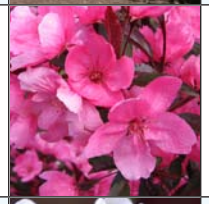
Crabapple Information Chart

NAME			SIZE H	SIZE W	SHAPE	FOLIAGE	FLOWER	FRUIT	DISEASE RESISTANCE: SCAB	FIRE-BLIGHT	CEDAR-APPLE RUST	MILDEW
Malus sargentii **Sargent Crabapple** A natural dwarf with horizontal spreading branches. These are laden with bright red fruits that persist long into the winter months Outstanding when planted in groups.			8	12	Low, horizontally spreading dwarf	Dark green	Profuse, single, white, ½", fragrant	Small, ¼"-⅓", profuse, dark red, persistent	Excel.	Excel.	Excel.	Excel.
Malus sargentii 'Tina' **Sargent Tina Crabapple** This most petite of all crabapples is grown as a top graft. Flowers, fruit and leaves are all quite small.			5	6	Small rounded dwarf tree	Medium green, small leaves	Bright red buds opening to single white flowers	Bright red, ¼"	Excel.	Good	Excel.	Excel.
Malus 'Shotizam' **Show Time™ Crabapple** Heavy blooming, with large bright fuchsia-pink flowers that are striking in springtime. Dark green foliage has a red overlay. A vigorous grower with upright oval form, it features bright red fruits in autumn.			22	20	Broadly oval to rounded	Purple bronze to bronze green	Bright pinkish red	Red, ½"	Fair	Good	Good	Excel.
Malus 'Snowdrift' **Snowdrift Crabapple** One of the most popular crabs. The crown is very uniform and symmetrical, making it one of the more formal looking crabs.			20	20	Upright spreading, rounded and dense	Bright green, glossy	Buds pink, flowers single, white.	Orange, small, less than ⅜", persistent	Good	Fair	Excel.	Excel.
Malus 'Spring Snow' **Spring Snow Crabapple** Featuring pure white flowers but no fruit, this is the crabapple to use in locations such as patios and courtyards where fruit would be objectionable. It flowers well on an annual basis.			25	22	Dense, oval	Medium green	Pure white, fragrant, single	Nearly sterile. Excellent for patios & courtyards.	Poor	Fair	Good	Excel.
Malus 'Sutyzam' PP 7062 **Sugar Tyme® Crabapple** Fragrant white flowers smother Sugar Tyme® in spring. Persistent red fruits provide a fine fall and winter display.			18	15	Upright spreading, oval	Green	Pale pink buds, white, single flowers	Red, ½", persistent	Good	Good	Excel.	Excel.

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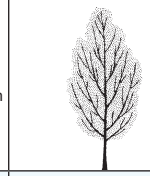
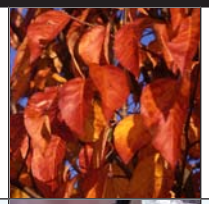
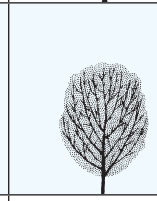
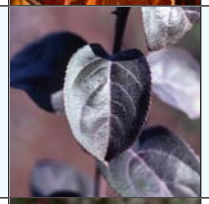
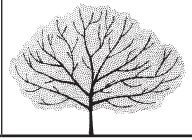
Crabapple Information Chart

NAME			SIZE H	SIZE W	SHAPE	FOLIAGE	FLOWER	FRUIT	DISEASE RESISTANCE: SCAB	FIRE-BLIGHT	CEDAR-APPLE RUST	MILDEW
Malus tschonoskii **Tschonoskii Crabapple** Unusual for its narrow form and striking foliage. Silvery green new growth matures to light green with silvery green undersides. Fall color outshines that of all other crabapples.			28	14	Upright, narrowly oval	Emerges silvery green. Outstanding fall color	White, single	Greenish, sparse, 1"	Good	Poor	Excel.	Excel.
Malus 'Velvetcole' **Velvet Pillar™ Crabapple** Velvet Pillar™ was selected as a tightly upright plant with purple foliage and well balanced growth for use as a hedge plant. We grow it as both multi-stem and tree form.			20	14	Upright head with ascending branches	Purple	Pink, single	Maroon-red, 3/8", sparse	Fair	Good	Excel.	Good
Malus × *zumi* 'Calocarpa' **Zumi Calocarpa Crabapple** Very popular, widely used and time tested, this is a standard for comparison for white flowered crabs. Don't confuse *M. zumi* 'Calocarpa' with straight *M. zumi*.			20	24	Rounded, gracefully spreading	Large green leaves, dense canopy	Buds red, flowers white, single, fragrant, 1¼"	Bright red, glossy, small, 3/8", persistent	Excel.	Excel.	Excel.	Good

Publications & Information
Animal & Range Sciences, Extension Service
Montana State University

Siberian Crabapple (Malus baccata) and Manchurian Crabapple (Malus baccata mandshurica)

Habitat Management Suggestions for Selected Wildlife Species

By R.J. Mackie, R.F. Batchelor, M.E. Majerus, J.P. Weigand, and V.P. Sundberg

Description

These crabapples grow 10 to 15 feet tall as deciduous, round-topped, low growing trees. They are native to the temperate regions of northeastern Asia, northern China and Japan. Showy white flowers are displayed in full bloom in May, followed by berry-like, red apples 1/3 to ½ inch in diameter that ripen in the fall. The leaves are oval-shaped, finely-toothed along the edges and slightly hairy on the underside. The branches are somewhat thorny. 'Midwest' Manchurian crabapple is a winterhardy cultivar released in 1978 by the Bismark, North Dakota Plant Materials Center.

Adaptation

Crabapples will grow on almost any soil, but prefer a deep, loamy, well-drained soil high in organic matter. They have a low tolerance for alkali. The minimum moisture requirement under cultivation is 10 to 14 inches.

Establishment

The planting stock should be one or two years old, with no prior transplantings, and at least 15 inches tall. Usually the plants should be spaced 6 to 10 feet apart.

Management and Care

Since the foliage and twigs of apples are choice browse for many animals, ranging from elk to mice, the plants will usually require some degree of protection for continued survival. Pruning recommendations are to remove no more than 1/4 of the total foliage in any one year. This would appear to be a reasonable guide for browsing until further information is available. Cultivation and fertilization may be necessary, depending on competition from other vegetation, available moisture, soil fertility and site situations. Nitrogen, phosphorus and iron deficiencies occasionally occur requiring soil tests and fertilization. Fire blight disease is a common affliction of apples, requiring the recommended antibiotics.

Numerous publications on the culture of apples are available, ranging from bulletins to hard cover books.

Uses

Apple foliage is choice food for browsing animals including elk, deer and mice. The fruit is choice food for nearly all seed or plant-fruit eating wildlife. Deer and elk are particularly fond of apple fruit.

MANCHURIAN CRABAPPLE

Malus mandshurica (Maxim.) Kom.

Plant Symbol = MAMA37

Contributed by: USDA NRCS Plant Materials Center, Bismarck, North Dakota

Photo Credit: USDA NRCS Plant Materials Center, Bismarck, North Dakota

Alternate Names
Common Alternate Names: None
Scientific Alternate Names: Malus mandshurica (Maxim.) Kom. var. *sachalinenis* (Juz.) Ponamar; *Malus bacata* (L.) Borkh. ssp. *mandshurica* (Maxim.) C.K. Schneid.

Uses
Conservation/Windbreaks: Manchurian crabapple can be used in single or multiple row windbreaks. Its dense branches provide wind and snow protection for farmsteads and cropland.

Wildlife: This species provides cover and habitat for wildlife. Manchurian crabapple is rated excellent as a food supply for wintering wildlife (Henderson, 1987).The fruit is a small apple generally less than ½ inch in diameter that that can "raisin" on the tree and provide a winter food source for many birds and mammals.

Agroforestry Products: The wood is used in smoking meats and makes excellent quality firewood. Fruit can be used fresh, dried, or processed into juices, jellies, sauces, pies, cakes, and cider.

Urban/Recreational: The species can be used both in urban and recreational settings for shade and screening.

Ethnobotany: Apple juice is used for liver problems, gout, dysentery, and diarrhea. The fruit is used to dispel gas, dissolve mucous, cure flux, and as a tonic for colic (Herman et al., 1996).

Status
Manchurian crabapple is a plant hardiness zone 2 species that originates in northeast Asia. Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g., threatened or endangered species, state noxious status, and wetland indicator values).

Weediness
Manchurian crabapple may become weedy or invasive in some regions or habitats and may displace desirable vegetation if not properly managed. The fruit is highly edible by birds and mammals, and seed may be spread locally. Plants are not rhizomatous. Please consult with your local NRCS Field Office, Cooperative Extension Service office, state natural resource, or state agriculture department regarding its status and use. Weed information is also available from the PLANTS Web site at http://plants.usda.gov/. Please consult the Related Web Sites on the Plant Profile for this species for further information.

Description
Manchurian crabapple is a small, non-suckering, bushy tree with many showy, white petals. The small fruit is edible by wildlife. Manchurian crabapple needs well-drained, moist soils. It is a hardy, spring- flowering tree that has played a big part in the development of many new crabapple varieties (Knowles, 1995).

The buds are small, ⅛ to ¼ inch, alternate, and reddish-brown, with imbricate scales. The leaves are simple, ovate to elliptical-oblong with finely serrated edges. The leaf surface is smooth or pubescent. Leaves are 1½ to 3¼ inches long and 1 to 2½ inches wide. They are dark or olive-green above and paler green below. The leaves turn yellow in the fall. The flower is an umbel with white blossoms. The fruit is a pome, and generally smaller than ½ inch (Herman et al., 1996). It has a tendency toward pendulous branches with rather narrow leaves, slender branches, and bright red fruit (Bourdo, 1999).

It has a form that ranges from spreading to densely globose. It reached a height of 20 feet and a width of 20 feet in 20 years on a well-drained loam soil in east-central

South Dakota (Knudson, 2004). The bark is gray to reddish-brown. It has a spreading, fibrous root system.

Distribution
Manchurian crabapple is native to northeast Asia. For current distribution in North America, please consult the Plant Profile page for this species on the PLANTS Web site.

Adaptation
The species is cold hardy and moderately drought tolerant. It is adapted to a variety of soils, but prefers heavier loam. It prefers moist, but well-drained sites in full sun. It tends to become chlorotic with higher pH.

Establishment
Deer and rabbits often browse young plants. Planting should be done in the early spring when moisture conditions are best. Weed control helps establishment and growth rate. Irrigation may be needed to ensure early survival on dry sites.

Management
Conservation grade seedlings are usually 2 years old and 1-2 feet tall. Manchurian crabapple is a small tree that should be planted in the spring 6 to 10 feet apart. Seedlings grow medium fast. Dry conditions may cause die-back. Irrigation may be needed to ensure survival on drier sites. If animal populations are high, the trees should be protected from browse and girdling, especially in grassy areas (Knudson, 1984). Pruning should be done during dormancy. Manchurian crabapples are intolerant of poorly drained soil and are best planted on a soil of medium fertility. They should be planted in full sun. Shade will lessen the quality and quantity of flowers (Eisel, 1997).

Pests and Potential Problems
Susceptibility of the various varieties to bacterial fireblight (*Erwinia amylorora*) disease varies from susceptible to highly resistant, so caution is advised (Knowles, 1995). Other diseases typical of the *Malus* species include apple scab (*Venturia inaequalis*) and anthracnose canker (*Pezinula malicorticus*). Crabapples should not be planted with cedar or juniper trees because of the problem with cedar-apple rust (*Gymnsporangium juniperi-virginianae*). The leaves contain an anti-bacterial substance called phloretin, which may provide variable resistance to bacterial diseases. Insect pests include fall cankerworms (*Alsophila pometaria*), fall webworms (*Hyphantria cunea*), and apple maggot (*Rhagoletis pomonella*) (Herman et al., 1996).

Environmental Concerns
The fruit is a pea-sized apple, highly desirable by birds and small mammals. It is spread locally by these animals. Manchurian crabapple is not aggressive, and invasiveness is not usually a concern. Fire and herbicide can be used for control.

The small apples are eaten by many species of birds. **(***Photo credit: D. Tober***,** *USDA NRCS PMC, Bismarck, ND*)

Seeds and Plant Production
Seed is picked and cleaned in the fall. It is stratified approximately 30 days before planting in the fall. The seed can be mixed with damp, fine sand and kept at temperatures of 34 to 36 degrees F. Growers should watch closely the last few days to determine when the seeds begin to sprout and break dormancy. Seed is planted approximately ½ inch deep in beds or rows and mulched lightly with the surface kept moist until the seedling emerges. Planting stock should be approximately 12-24 inches tall.

Cultivars, Improved, and Selected Materials (and area of origin)
'Midwest' Manchurian crabapple was developed by the USDA NRCS Plant Materials Center at Bismarck, North Dakota. It is grown from open pollinated seed and recommended for use in windbreaks and for wildlife plantings. It was selected for its good seedling vigor and growth rates.

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Siberian Crabapple

Siberian Crabapple *(Malus baccata)*

General Description

Crabapples are a group of small flowering trees used for conservation and landscape plantings. They are valued for their foliage, fruit, flowers, wildlife benefits, and variations in form and size. Many varieties of conservation crabapples are hybrids of this species. Flowers and fruit are of particular interest. Siberian crabapple is the hardiest species of the *Malus* genus and produces white flowers. The largest tree in North Dakota is 32 feet tall with a canopy spread of 40 feet.

Leaves and Buds

Bud Arrangement - Alternate.

Bud Color - Reddish-brown, with several imbricate scales.

Bud Size - 1/8 to 1/4 inch long.

Leaf Type and Shape - Simple, elliptical.

Leaf Margins - Finely-serrate to irregularly-toothed or lobed.

Leaf Surface - Essentially glabrous.

Leaf Length - 1 to 3¼ inches.

Leaf Width - 1 to 2½ inches.

Leaf Color - Dark or olive-green above, paler green beneath; yellow fall color.

Flowers and Fruits

Flower Type - Umbel or corymb-like racemes.

Flower Color - White.

Fruit Type - A 1/4 to 1/3 inch (pea-sized) pome with deciduous calyx.

Fruit Color - Yellow, often with reddish blush.

Form

Growth Habit - Range from round to spreading types.

Texture - Medium-fine, summer; medium, winter.

Crown Height - 15 to 25 feet.

Crown Width - 15 to 25 feet.

Bark Color - Gray-brown to reddish-brown.

Root System - Spreading.

Environmental Requirements

Soils

Soil Texture - Adapted to a variety of soils, prefer a heavy loam soil.

Soil pH - 5.0 to 7.5, prefers slightly acidic soils..

Windbreak Suitability Group - 1, 3, 4, 4C, 5, 6D, 6G.

Cold Hardiness

USDA Zone 2.

Water

Need well-drained, moist soils.

Light

Full sun.

Uses

Conservation/Windbreaks

Small tree for farmstead windbreaks, riparian plantings, and highway beautification.

Wildlife

Crabapples provide fair cover and high quality fruit and browse for many birds and mammals. Rodents and rabbits can destroy trees by girdling them.

Agroforestry Products

Wood - Desirable for smokehouse kindling and firewood.

Food - Used fresh and processed.

Medicinal - Used for dysentery and diarrhea. Source of phloretin, an antibiotic.

Urban/Recreational

Used for ornamental landscaping, specimen, shade tree, and screens.

Cultivated Varieties

Several cultivated varieties for ornamental and conservation uses.

Columnar Siberian Crabapple *(Malus baccata* 'Columnaris') - Narrow, upright tree, highly fireblight susceptible.

Manchurian Crabapple (*Malus baccata* var. *mandshurica*)

Midwest Crabapple (*M. baccata* var. *mandshurica* 'Midwest') - Released by USDA-NRCS, Plant Materials Center, Bismarck, North Dakota. A cultivar seed strain.

Related Species

Dolgo Crabapple (*Malus* x 'Dolgo') - Introduced by South Dakota State University in 1917. White flowers, 1-inch oval, red fruits. Very hardy rootstock or interstock.

Pests

Common diseases include fireblight, cedar-apple rust, apple scab, and botryosphaeria canker. Common insect pests include cankerworm and apple maggot. Rabbits, rodents, and deer commonly feed on crabapples.

Crabapples should be protected from girdling or browsing by mammals and should not be planted in the same site as juniper or red-cedar. Extracts of fruit have been used as an attractant to trap insect pests.

American Cranberrybush

American Cranberrybush *(Viburnum trilobum)*

General Description

A large, leggy, poorly branched native shrub found in wooded, usually moist areas, competing with the rest of the underbrush. In cultivation it may assume a fully-branched, reasonably dense form. Excellent orange-red fall color and red fruits.

Leaves and Buds

Bud Arrangement - Opposite.

Bud Color - Greenish-red and smooth, with 2 connate outer scales.

Bud Size - Plump, 1/5 to 1/6 inch.

Leaf Type and Shape - Simple, trilobed.

Leaf Margins - Rounded or truncate at base, lobes acuminate tipped, coarsely dentate, sometimes middle lobe elongated and entire, petiole with shallow groove and small dome- shaped, usually stalked glands.

Leaf Surface - Smooth, pilose on veins beneath or nearly glabrous.

Leaf Length - 2 to 5 inches.

Leaf Width - 2 to 3 inches.

Leaf Color - Medium to dark green changing to yellow through red-purple in fall.

Flowers and Fruits

Flower Type - Flat-topped cymes.

Flower Color - White.

Fruit Type - Soft, berry-like drupes, 1/3 inch long.

Fruit Color - Bright red to scarlet.

Form

Growth Habit - Round-topped and fairly dense under cultivation, poorly branched and open in native habitat.

Texture - Medium, summer; medium-coarse, winter.

Crown Height - 8 to 12 feet.

Crown Width - 8 to 12 feet.

Bark Color - Gray-brown, glabrous, with a waxy appearance.

Root System - Shallow, fibrous, spreading.

Environmental Requirements

Soils

Soil Texture - Prefers fertile loamy soils.

Soil pH - 4.5 to 7.0.

Windbreak Suitability Group - 1, 2.

Cold Hardiness

USDA Zone 2.

Water

Does best on well-drained sites with better than average moisture.

Light

Partial shade to full sun.

Uses

Conservation/Windbreaks

Medium to large shrub for farmstead windbreaks and riparian plantings.

Wildlife

Fruit eaten by a variety of birds.

Agroforestry Products

Fruit - Berries turn black in drying and have been used for making ink.

Food - Fruits processed as jam or jelly.

Medicinal - Some *Viburnum* species are used as a nerve sedative and anti-spasmatic for asthma, cramps, palpitation, heart disease and rheumatism.

Urban/Recreational

Specimen plant. Effective in small masses and borders.

Cultivated Varieties

Alfredo Compact American Cranberrybush (*Viburnum trilobum* 'Alfredo Compact')

Andrews American Cranberrybush (*V. trilobum* 'Andrews')

Bailey Compact American Cranberrybush (*V. trilobum* 'Bailey Compact')

Compact American Cranberrybush (*V. trilobum* 'Compactum')

Hah's American Cranberrybush (*V. trilobum* 'Hahs')

Wentworth American Cranberrybush (*V. trilobum* 'Wentworth')

Related Species

Arrowwood Viburnum (*Viburnum dentatum*)

European Cranberrybush (*V. opulus*)

Nannyberry Viburnum (*V. lentago*)

Wayfaringtree Viburnum (*V. lantana*)

Pests

No major pest problems. Occasional injury by dogwood borers.

Viburnum trilobum (American cranberry bush)

Hardiness Zones: 1 | 2 | 3 | 4 | 5 | 6 | 7 | 8 | 9 | 10 | 11

Botanical Name: *Viburnum trilobum* vy-BURN-um try-LOW-bum **Common Name:** American cranberry bush

Genus: *Viburnum*

This deciduous, rounded shrub grows to 15 feet tall with maple-like, lobed, dark green leaves that turn shades of red, yellow, and purple in autumn. White flowers resembling lace-cap hydrangeas bloom in spring and are followed by abundant red fruit loved by birds. Grow in a woodland garden or border, or as a wildlife plant.

Noteworthy characteristics: Foliage shaped like maple leaves. Showy flowers in late spring followed by edible, red fruit. North American native.

Care: Grow in full sun or partial shade. Tolerant of most any moderately fertile, moist but well-drained soil.

Propagation: Sow seed in autumn, in a cold frame or seedbed. Take greenwood cuttings in summer.

Problems: Insects such as aphids, scale insects, weevils, Japanese beetles, mealybugs, and treehoppers are common, while Botrytis, rust, mildews, wood rot, Verticillium wilt, leaf spots, and dieback also occur.

Height	10 ft. to 15 ft.
Spread	10 ft. to 15 ft.
Growth Pace	Moderate Grower
Light	Full Sun to Part Shade
Moisture	Medium Moisture
Maintenance	Moderate
Characteristics	Attracts Birds; Native; Showy Fall Foliage; Showy Flowers; Showy Fruit
Bloom Time	Late Spring; Spring
Flower Color	White Flower
Uses	Beds and Borders
Style	Woodland Garden
Seasonal Interest	Spring Interest, Summer Interest, Fall Interest
Type	Shrubs

Taken from: www.finegardening.com

United States Department of Agriculture
Natural Resources Conservation Service

Plant Guide

AMERICAN BLACK CURRANT

Ribes americanum MILL.

Plant Symbol = RIAM2

Contributed by: USDA NRCS Bismarck Plant Materials Center

American black currant. Photo courtesy of USDA NRCS, Bismarck, North Dakota

Alternate Names
Wild black currant, black currant

Uses
Windbreaks: This species is suitable for the outside rows of multi-row belts.

Wildlife: Black currant is a favored browse of grazing animals. Birds and small mammals eat the berries. This species may form thickets which are desirable for habitat.

Recreation and Beautification: This low-growing shrub has attractive flowers which are visited by insect pollinators. The berries are nearly black in color, with a smooth, glossy surface. They are high in vitamins and antioxidants and are used for human consumption. The crimson/gold fall leaf color adds to its visual appeal.

Status
In Minnesota and Michigan, American black currant is reported to invade sedge meadows (Marshall, 1995). White pine blister rust legislation prohibits the planting of *Ribes* spp. in Michigan. Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status (e.g., threatened or endangered species, state noxious status, and wetland indicator values).

Weediness
This plant does not sucker, but seedlings may establish off-site from seed spread by birds. Please consult with your local NRCS field office, Cooperative Extension Service office, State natural resource, or State agriculture department regarding its status and use. Weed information is also available from the PLANTS Web site at plants.usda.gov. Please consult the Related Web Sites on the Plant Profile for this species for further information.

Description
General: American black currant is a native shrub species three to six feet tall with erect branches lacking spines, on multiple stems. The simple, alternate leaves are one to three inches wide and gland-dotted beneath with three to five lobes. The glands are golden-yellow in color (Stephens, 1973). Small flowers open in May and have five white petals. In central North Dakota, the median date for full flowering is May 21, with an average flowering period of 22 days (Callow et al., 1992). In Illinois, the tubular flowers are visited by bumblebees which suck nectar and sweat bees which collect pollen (Hilty). Drooping racemes produce glossy, red-purple to nearly black fruit (¼ to ½ inch in diameter) in August-September. The globose berries are smooth and contain many seeds. Ripe fruits are sweet and desirable for human consumption. They are commonly eaten by birds and small mammals through the fall season. Propagation is primarily from seed with some possible layering and basal sprouting. American black currant may form open thickets, but does not spread by suckering. Seedling vigor is good, and growth rate is medium. Lifespan is considered short to medium. It has moderate flood tolerance, and is considered highly drought tolerant. It occurs naturally as an understory species and is shade tolerant. It is rated high in palatability by browsing animals, but the evaluation plots in North Dakota showed little damage. Chromosome number is x=8 and the photosynthetic pathway is C_3.

Distribution: This species occurs from New Brunswick west to Alberta, south to Delaware, West Virginia, Indiana, Iowa, Nebraska, Colorado, and New Mexico. For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

Habitat: American black currant occurs primarily along stream banks and in moist ravines, but also in wet meadows, floodplains, and woodland edges (Larson and Johnson, 1999).

Adaptation
American black currant is suitable for many conservation and agroforestry plantings on a variety of soil types. It is considered highly drought tolerant and is shade tolerant. It grows best in USDA Plant Hardiness Zones 3-5.

Establishment
Nursery grown seedlings establish readily if planted free of competing vegetation, in locations having 14 inches or more of annual precipitation. Bareroot seedlings should be planted in the spring, once the threat of frost is over. Containerized stock may be planted from spring to the middle of summer, if there is adequate moisture. Fertilization is not needed. The optimum spacing is 5 to 6 feet between plants, as mature plants tend to be wider than they are tall.

Management
Control of invading weeds and grasses is important. Shallow cultivation works best. This currant does not spread by suckering. Plants begin fruiting after three years.

Pests and Potential Problems
Insects and disease are not a serious problem. Good air circulation will help in the prevention of leaf spot and other fungal diseases.

Environmental Concerns
American black currant is considered a low risk for serving as a host for the white pine blister rust. It is not tolerant of fire.

Seeds and Plant Production
There are approximately 313,000 seeds per pound of American black currant. Eighteen pounds of fruit will yield a pound of seed. Currant seeds naturally germinate in spring following dispersal. In the nursery trade, seed is sown in the fall, with seedlings being grown for one season.

Cultivars, Improved, and Selected Materials (and area of origin)
These plant materials are available from commercial sources. Riverview germplasm originates from South Dakota and is released by the USDA NRCS Plant Materials Center, Bismarck, ND (Bismarck Plant Materials Center, 2010).

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Golden or Clove Currant

Golden or Clove Currant *(Ribes odoratum)*

General Description

A small shrub native to western United States. Similar to golden currant (*R. aureum*). Well adapted to growing conditions in the north. Fragrant, yellow, clove-scented flowers.

Leaves and Buds

Bud Arrangement - Alternate.

Bud Color - Creamy-tan, imbricate, stalked.

Bud Size - 1/4 inch.

Leaf Type and Shape - Simple, 3 to 5 lobed leaf.

Leaf Margins - Obtuse or acute with dentate lobes.

Leaf Surface - Smooth, glabrate below.

Leaf Length - 1½ to 2 inches.

Leaf Width - 1 to 1½ inches.

Leaf Color - Light green; yellow fall color.

Flowers and Fruits

Flower Type - Polygamo-dioecious, borne in racemes.

Flower Color - Golden-yellow.

Fruit Type - Berry, if present.

Fruit Color - Black or purplish-brown.

Form

Growth Habit - Upright spreading, becomes leggy.

Texture - Fine, summer; medium-fine, winter.

Crown Height - 3 to 6 feet.

Crown Width - 3 to 6 feet.

Bark Color - Light to chestnut brown.

Root System - Medium in spread.

Environmental Requirements

Soils

Soil Texture - Adapted to a variety of soils, tolerant of saline soils.

Soil pH - 5.5 to 8.0.

Windbreak Suitability Group - 1, 1K, 3, 4, 4C, 5, 8, 9C, 9L.

Cold Hardiness

USDA Zone 2.

Water

Currants are fairly drought tolerant.

Light

Full sun to partial shade.

Uses

Conservation/Windbreaks

Small to medium shrub for farmstead windbreaks and riparian plantings.

Wildlife

Preferred roosting, loafing, or nesting cover for songbirds. Berries edible if present. Preferred browse for mule deer. Not preferred by white tail deer.

Agroforestry Products

Food - Native Americans ate the fruit raw and used it in making pemmican. Currently used fresh and for jelly and jam.

Medicinal - Some *Ribes* species have been used as cures for inflammation.

Urban/Recreational

Border, hedge, and mass plantings.

Cultivated Varieties

None.

Related Species

Alpine Currant *(Ribes alpinum)*

Golden Currant (*R. aureum*)

Pests

Premature defoliation is a common problem due to imported currant worm, anthracnose or leafspots. Extracts of some *Ribes* species are toxic to various insect pests.

GOLDEN CURRANT

Ribes aureum Pursh

Plant Symbol = RIAU

Contributed by: USDA NRCS National Plant Data Center & the Biota of North America Program

Botany Dept., NMNH, Smithsonian Institution @ PLANTS

Alternate Names
Buffalo currant, fragrant golden currant, golden flowering currant, clove currant, spicebush

Uses
Wildlife: Fruits of *Ribes* species, including the golden currant, are a valuable food source for songbirds, chipmunks, ground squirrels, as well as numerous wildlife species and other animals.

Ethnobotanic: The sweet and flavorful fruits are full of seeds but are popular for making jam, jelly, pie, and even ice cream. Some western Indian tribes used currants (*Ribes* species) for making pemmican. The Kiowa Indians believed that snakes were afraid of the currant bush and used it as a snakebite remedy. Other tribes have used the fruits to color clay pots.

Conservation: The fragrant (clove odor), golden-yellow flowers of spring, yellowish to red fall foliage, edible fruits, and wide ecological range make golden currant a valued ornamental shrub for a variety of natural landscapes. Golden currant is easily cultivated from seed or cuttings.

Status
Please consult the PLANTS Web site and your State Department of Natural Resources for this plant's current status, such as, state noxious status and wetland indicator values.

Description
General: Currant family (Grossulariaceae). A native shrub 1-3 m tall, spineless, with numerous, erect-arching branches forming an irregular crown up to 6 meters tall or more; bark gray to red-brown; rhizomatous. Leaves deciduous, light green and glossy, alternate or clustered, orbicular or cuneate-ovate with 3-5 rounded lobes, (0.6-)1-2.5(4.7) cm long and wide, cuneate to subcordate at base, glabrous or sometimes lightly hairy beneath. Flowers in short racemes of 5-10(-15), with the fragrance of cloves; long-tubed (from fused sepals) and trumpet-shaped, with 5 yellow sepal lobes spreading at the top, with 5, short, reddish petals inserted at the top of the tube. Fruit a berry 6-10 mm diameter, globose to ellipsoid, ripening from green to yellow to red and finally black to dark purple, with numerous seeds. The common name pertains to the conspicuous, golden flowers; "currant" is the general name for *Ribes* fruit.

Variation within the species: Ribes odoratum, often considered a distinct species, recognized by its considerably larger flowers, has been placed (re-placed, as var. *villosum*) as the eastern segment of the broader species.

Var. *aureum* – (golden currant)
Var. *gracillimum* (Coville & Britt.) Jepson – (golden currant)
Var. *villosum* DC. – (fragrant golden currant, buffalo currant, clove currant)
synonym: *Ribes odoratum* H. Wendl.

Distribution: Var. *aureum* is widespread in the western US and southeastern Canada, with

populations in Ontario and perhaps Quebec, as far south in the US as trans-Pecos Texas. Var. *gracillimum* is endemic to California. Var. *villosum* in the central US, from western Texas to Montana and eastward to New York and Vermont; it is absent from the Atlantic seaboard. The species is naturalized in Europe from garden escapes. For current distribution, please consult the Plant Profile page for this species on the PLANTS Web site.

Adaptation
Golden currant grows in grasslands, coniferous forests and woodlands, and riparian and mountain shrub communities. It occurs on floodplains, along streams, in ravines and washes, by springs, and on mountain slopes, at elevations of about 800–2600 meters. It is generally an early to mid-seral species in western coniferous forests. Var. *villosum* occurs on cliffs, rocky slopes, ravines, bluffs, open hillside, and thicket margins, often in sandy habitats. Golden currant is somewhat shade tolerant and may grow in open, scattered, and dense pine stands, but it is usually suppressed by a denser canopy.

Flowering (March–)April–June, just after appearance of the leaves; fruiting (May–)June–August.

Establishment
Plants of *Ribes* generally begin fruiting after 3 years. Seeds may remain viable in the soil and duff for many years. Germination is enhanced by scarification, but relatively good germination of golden currant seeds was obtained by stratification at -2.2–2.2 degrees C for 60 days without scarification.

Golden currant transplants well and forms suckers. Plants can also be grown from cuttings. It reproduces vegetatively by rhizomes, sprouting after cutting and fire.

Management
Golden currant can be used to re-vegetate roadsides and disturbed areas, such as mine spoils and rangeland. It is rated mostly good in initial establishment, growth rate. persistence, germination, seed production, ease of planting, and natural spread. It tolerates shearing and may be used on dry, exposed sites in a range of soil types, and it is a good soil stabilizer.

Golden currant is an alternate host for white pine blister rust (*Cronartium ribicola*); this and other species of *Ribes* have been targets of various eradication efforts where white pine is of commercial interest. Please check the PLANTS Profile for this plant for links to additional information.

Fire top-kills golden currant, but it can survive low- to moderate-severity fire by sprouting from rhizomes. Such fires also scarify soil-stored seed and enhance germination. Severe fire probably kills golden currant and may destroy soil-stored seeds.

Cultivars, Improved and Selected Materials (and area of origin)
These plant materials are readily available from commercial sources. One cultivar (‘Crandall’) has been referred to as "the North Country's answer to *Forsythia*." Other horticultural selections have been made for hardiness, flower color and density, and fruit taste and size.

Contact your local Natural Resources Conservation Service (formerly Soil Conservation Service) office for more information. Look in the phone book under ”United States Government.” The Natural Resources Conservation Service will be listed under the subheading “Department of Agriculture.”

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Golden currant

Ribes aureum

Growth Form: round to irregular
Crown Density: moderate
Size: 7 feet high
3 foot spread
Drought Resistance: good
Cold Hardiness: good
Growth Rate: rapid
Life Span: moderate
Elevational Range: to 8,000 feet
Soil Conditions: moist
Possible Insect Problems: imported currant worm, oyster shell scale
Possible Disease Problems: blister rust
Wildlife Value: good: food and browse value; nesting cover
Seasonal Color: red to orange fall color; showy yellow flowers
Miscellany: native; edible fruit

Taken from: Trees for Conservation, a buyer's guide, Colorado State Forest Service