

Common Hackberry



Common Hackberry (*Celtis occidentalis*)

General Description

A medium-sized tree native to North Dakota. A good replacement tree for the American Elm because of its similar form and adaptability. Gray, unique stucco-like bark. The largest tree in North Dakota is 70 feet tall with a canopy spread of 62 feet.

Leaves and Buds

Bud Arrangement - Alternate, with no terminal bud. Buds are flattened and pressed against the twig, rather inconspicuous.

Bud Color - Chestnut-brown and downy.

Bud Size - Lateral buds are 1/4 inch long, ovate, and sharp-pointed.

Leaf Type and Shape - Simple, acuminate-tipped, ovate-oblong.

Leaf Margins - Serrate except at the oblique base.

Leaf Surface - Smooth to sometimes scabrous above, glabrous or slightly hairy on veins beneath.

Leaf Length - 2 to 5 inches.

Leaf Width - 1 to 2½ inches.

Leaf Color - Bright-green above, paler below; yellow fall color.

Flowers and Fruits

Flower Type - Polygamo-monoecious, with male flowers in clusters, perfect and pistillate flowers, solitary.

Flower Color - Pale-green flowers.

Fruit Type - A rounded, 1/4 inch pitted fruit called a drupe.

Fruit Color - Dark-purple.

Form

Growth Habit - Narrow when young, broadening at the top and arching out when mature.

Texture - Medium, summer; medium, winter.

Crown Height - 40 to 60 feet.

Crown Width - 25 to 45 feet.

Bark Color - Grayish with distinct narrow, corky ridges that appear as eroded wart-like projections.

Root System - Spreading, shallow to deep, depending on soils. Occasionally will have a strong taproot.

Environmental Requirements

Soils

Soil Texture - Performs well on a variety of soils.

Soil pH - 6.0 to 8.0. Somewhat tolerant to alkaline soils.

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

Cold Hardiness

USDA Zone 2.

Water

Moderately drought tolerant but does best on moist, well-drained sites. May compensate for droughty conditions by dropping a portion of the leaves when under stress.

Light

Full sun to partial shade.

Uses

Conservation/Windbreaks

Medium to tall tree for farmstead and field windbreaks, riparian plantings and highway beautification.

Wildlife

Fruit is eaten by many birds and mammals. Excellent tree for wildlife.

Agroforestry Products

Wood - Boxes, crates, and firewood.

Food - Native Americans used fruits to flavor meat in same manner as black pepper.

Urban/Recreational

Performs well in relatively dry and windy areas. Excellent for ornamental landscaping, parks, and boulevards.

Cultivated Varieties

Oahe Hackberry (*Celtis occidentalis* 'Oahe') - Released by USDA-ARS, Great Plains Research Station, Mandan, North Dakota, and USDA-NRCS Plant Materials Center, Bismarck, North Dakota. A cultivar seed strain.

Related Species

Sugar Hackberry (*Celtis laevigata*) - Deficient in hardiness and adaptation in North Dakota.

Pests

Commonly damaged by browsing rodents, rabbits, and deer. Nipple gall and witches'-broom tend to reduce its foliage/twig aesthetic quality.

COMMON HACKBERRY

Celtis occidentalis L.
Plant Symbol = CEOC

Contributed by: USDA NRCS Plant Materials
Program



© William S. Justice
Smithsonian Institution
@USDA NRCS PLANTS

Uses

Wildlife: Birds use the mature trees for nesting sites and feed on the fruit. Young stands also provide shelter for game birds, rabbits, and deer.

Erosion control: Hackberry has been used as an ornamental tree and in multi-row windbreaks.

Livestock: Grazing understory species can be helpful in reducing weed competition, however if young seedlings are grazed tree defects could occur resulting in low quality timber.

Timber: Hackberry has limited value in the manufacture of paneling and furniture.

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

Celtis occidentalis L., common hackberry, varies in size from a shrub to a tree in excess of 100 feet tall. It is widespread in the United States east of the Rocky Mountains. Hackberry grows best on moist alluvial soils, and occurs only as scattered trees mixed with other hardwoods. The leaves are 2 ½ to 4 inches long, and 1 ½ inches wide, oval to lance-shaped, and resemble those of the elm but are more sharply pointed. The bark is grayish brown, with characteristic corky warts or ridges becoming somewhat scaly. The fruit is ¼ inch to 1/3 inch in diameter, oval to somewhat round, dark red or purple, ripening in September and October, but remaining on the tree for several months.

Adaptation and Distribution

Hackberry is commonly found on rich, moist sites along stream banks or on flood plains, but will perform well under more adverse conditions. It tolerates alkaline or acid soil conditions, full sun, and wind. It grows in winter hardiness zones 2 through 8. New growth is subject to spring frost injury. Common hackberry requires at least 14 inches annual precipitation.

Hackberry is distributed throughout the eastern and midwestern United States. For a current distribution map, please consult the Plant Profile page for this species on the PLANTS Website.

Establishment

Bareroot seedlings of hackberry grown under standard nursery practices exhibit a degree of dormancy. Planting material should be spring lifted followed by sweat treatments for one week at 60 °F, just prior to planting. The sweating procedure involves placing the seedlings in moist sand or peat moss and covering with plastic. Conservation grade stock can be either 1 or 2 years old and 12 to 24 inches tall, with a caliper of 3/16 to 1/2 inch.

Management

Grazing should be controlled during establishment. Without protective netting, deer and rabbits will

severely damage the young seedlings. Weed competition should be controlled by grazing or by using approved herbicides.

Mature seeds can be hand-picked in September and October. Hackberry seeds exhibit dormancy which can be overcome with stratification in moist sand at 41 °F for 90 days or by fall planting. Fermenting the fruit for 3 days and de-pulping before stratification improves germination.

Pests and Potential Problems

The most common diseases found on hackberry are nipple gall and witches broom gall. These diseases are not fatal, but do affect the appearance and vigor of the plant.

Cultivars, Improved, and Selected Materials (and area of origin)

Seedlings are available at most hardwood nurseries. 'Oahe' (South Dakota) is recommended for use as farmstead, field and wildlife windbreaks in the Northern Great Plains. 'Prairie Pride' was selected in Illinois and is not known to develop witches broom gall.

Prepared By & Species Coordinator:

USDA NRCS Plant Materials Program

Edited: 01Feb2002 JLK; 01jun06 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>>

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's [TARGET Center](#) at 202-720-2600 (voice and TDD).

To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

Read about [Civil Rights at the Natural Resources Conservation Service](#).

Hackberry

Celtis occidentalis

Growth Form: globular

Crown Density: moderate

Size: 40-60 feet high

40-60 foot spread

Drought Resistance: very good

Cold Hardiness: very good

Growth Rate: rapid to moderate

Life Span: long

Elevational Range: to 7,000 feet

Soil Conditions: tolerates alkaline well; moderately salt tolerant

Possible Insect Problems: leaf gall psyllids; spiny elm caterpillar; nipple gall always present

Possible Disease Problems: hackberry witches' broom

Wildlife Value: high; songbirds and small mammals

Seasonal Color: pale lemon-yellow foliage in fall

Miscellany: native; wood of commercial value



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



United States Department of Agriculture
Natural Resources Conservation Service
Plant Materials Program

'Oahe' Hackberry

Celtis occidentalis

A Conservation Plant Release by USDA NRCS Plant Materials Center, Bismarck, North Dakota



'Oahe' hackberry, *Celtis occidentalis* L., is recommended for use as a tall tree in farmstead and field windbreaks and as a deciduous hardwood component of wildlife habitat and natural area plantings. Its crown is irregularly oval with dense foliage and numerous slender branches. The bark is light gray with corky ridges.

Description

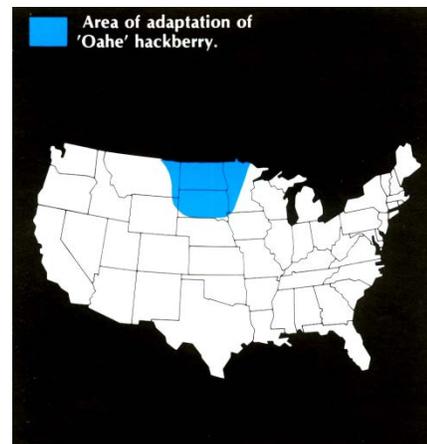
Oahe may grow 35 feet tall or more on favorable soils. The simple, alternate, coarsely toothed, light-green leaves are 2 to 4 inches long and 0.8 to 2 inches wide, with long, narrow, tapering tips. Three conspicuous ribs branch from the lopsided base. The upper part is smooth or slightly rough; the lower part is hairy and pale. Inconspicuous pale greenish flowers of both sexes appear in April or May with the young leaves on the new growth. The staminate flowers grow in clusters at the bases of the new shoots, whereas the pistillate flowers grow singly or in pairs from the axils of the upper leaves. Dark purple, small, cherry-like fruits hang suspended on slender stems and ripen in September and October. They remain on the tree throughout the winter, and the sweet orange flesh provides food for birds.

Source

Oahe hackberry has been tested as Mandan-12003. It was released in October 1982 by the USDA Natural Resources Conservation Service in cooperation with the USDA Agricultural Research Service. It was developed from open-pollinated seed collected in 1937 from trees planted on a farm near Gettysburg, South Dakota. These trees were derived from native hackberry growing in the vicinity of the Missouri River.

Area of Adaptation and Use

Oahe is recommended within the area of the Northern Great Plains shown on the adaptation map. It is not recommended outside this area. Precipitation for the area of adaptation ranges from 14 to 26 inches. Plant hardiness zones are those with average annual minimum temperatures that range from -30 to -20 degrees F.



Establishment and Management for Conservation Plantings

In the temperate zone, Oahe should generally be planted in the spring as soon as the ground thaws and when moisture conditions are best. To break hackberry dormancy, place seedlings on moist sphagnum moss in a plastic sack and seal tightly. Store at 70-80 degrees F for two weeks out of direct sunlight. Turn sacks daily to prevent mold on the bottom stock in the sack. If trees are lifted in the spring rather than fall, this procedure is not needed. The spacing between the plants should be 8 to 12 feet. Two-year-old seedlings that have not been transplanted should be used. They should have a height of 12 to 24 inches and a diameter of 3/16 to 1/2 inch. If animal populations are high, the trees should be protected from excessive browsing by deer and rabbits.

Performance

Oahe differs from common hackberry in its higher percentage of survival and faster growth. It has been evaluated in farmstead plantings in North Dakota, South Dakota, and western Minnesota. It has performed well on deep, fine-textured or moderately fine-textured, well-drained soils and under climatic conditions typical of the Northern Great Plains. Weed control, soils, and animal damage are the primary factors affecting survival and

growth rate. Survival of up to 95 percent with a mean annual growth of about 1.5 feet can be achieved with weed-free plantings of Oahe. Some winter dieback may occur at more northern locations.

Ecological Considerations

There is little risk of hackberry spreading aggressively offsite. Certain grassland nesting birds are negatively impacted when tall trees such as hackberry grow on or near their preferred habitat.

Seed and Plant Production

Oahe hackberry is a seed-propagated variety. Mature fruit can be hand picked in September and October. Hackberry seeds exhibit dormancy that can be overcome with stratification at 41degrees F in moist sand for 90 days or by fall planting. Fermenting the fruit for 3 days and depulping before stratification improves germination. Seed should be covered with ½ inch of soil at a bed density of 10 to 15 seeds per square foot.

Availability

For conservation use: Oahe hackberry seedlings are available from conservation nurseries in the Upper Midwest. For more information on the availability of Oahe hackberry, contact the local NRCS or conservation district office.

For seed or plant increase: For the purpose of establishing a seed orchard, limited quantities of seed may be available from the NRCS Plant Materials Center.



Citation

Release brochure for Oahe hackberry (*Celtis occidentalis*). USDA Natural Resources Conservation Service, Plant Materials Center. Bismarck, North Dakota 58504. Published May 1984, revised August 2012.

For additional information about this and other plants, please contact your local USDA Service Center, NRCS field office (www.nrcs.usda.gov) or Conservation District and visit the PLANTS Web site (www.plants.usda.gov) or the Plant Materials Program Web site (www.plant-materials.nrcs.usda.gov).

For more information, contact:
USDA-NRCS Plant Materials Center
3308 University Drive
Bismarck, ND 58504
Phone: (701) 250-4330
Fax: (701) 250-4334
<http://Plant-Materials.nrcs.usda.gov>

Helping People Help The Land

USDA IS AN EQUAL OPPORTUNITY PROVIDER AND EMPLOYER



Cedar-Hawthorn Rust

Small Trees (15 - 30')
Deciduous
Native
Map #33

Downy Hawthorn
(*Crataegus mollis*)
Family: Rosaceae

Leaves: simple, densely fuzzy on the underside early in the growing season, the 2-4" leaves are broad-oval with small lobes and serrated margins. During the growing season, the underside of the leaves becomes smooth on all but the veins; fall - orange, scarlet, purplish but variable.

Buds: alternate; small, reddish, rounded or blunt.

Stems: the slightly stout, zig-zagging stems are a medium yellowish brown when young, developing into a light grayish color with 1-2" brown thorns. The thorns are more numerous on young trees and vigorous growth. The thorns are only sparsely found on mature trees.

Bark: The bark is an ineffective scaly gray with an orange-brown undercast.

Flowers: A beautiful plant in flower, this species produces 1"-diameter white flowers with yellow anthers, appearing in 3 - 4" diameter clusters in late April or early May; unpleasant fragrance.

Fruits: Appearing in late August, the 1/2 - 1" diameter pome-like red drupes fall quickly, their large size posing a maintenance problem.

Habit: Rounded becoming wide-spreading with horizontal branching.

Culture: Although a beautiful specimen, it is quite susceptible to cedar-hawthorn rust which often defoliates the tree by August. It is therefore best reserved for naturalizing.

Cultivars:

none but several other species and cultivars are available.

Miscellaneous: Named for its pubescent leaf surfaces, the downy hawthorn is the largest of the hawthorns. Provides cover and nesting sites for birds and fruit for various wildlife.

Related species: *C. crus-galli* - Cockspur H. - glossy dark green, unlobed leaves, curved thorns 1—3" long (cv. 'Inermis' is thornless); great horizontal branching habit.

C. viridis 'Winter King' - The best of the cultivated hawthorns for bark display, this species has a light to medium gray scaly bark that chips off to reveal patches of orange-brown. Although it is a subtle effect, it does add interest to the plant. *C. phaenopyrum* - Washington H. - Known for its excellent long-persisting red fruit display, the Washington hawthorn is a small to medium rounded tree that also has good, foliage, flowers and fall color.

C. laevigata 'Paul's Scarlet' - Paul's Scarlet English H. - Selected for its double pinkish red flowers, this vase-shaped cultivar is widely used in Europe. It is seen in the US, however its usage is greatly limited by its susceptibility to leaf blight. *C. x lavalleyi* - Lavalley H. - This rust-free hawthorn has nice glossy foliage, showy white flowers, orange-red speckled fruits, sometimes excellent orange-red fall color and an irregular oval habit, making it an interesting addition to the landscape.



(c) 2002 Gary J. Kling



(c) 2002 Gary J. Kling

Paul's Scarlet H.—*C. laevigata*



Cockspur H.



(c) 2002 Gary J. Kling



Washington H.—*C. phaenopyrum*



(c) 2002 Gary J. Kling



(c) 2002 Gary J. Kling

'Winter King' Hawthorn

Credits: Photos from: www.midwestlandscapeplants.org and various other .edu websites unless noted. Text from: "Manual of Woody Landscape Plants" by Michael Dirr; "Tree Identification Characteristics (abridged)" from the University of Illinois Extension; www.midwestlandscapeplants.org; and misc. other sources. This publication may not be sold except to cover the cost of reproduction when used as part of an educational program of the University of Wisconsin-Extension.

Arnold Hawthorn



Arnold Hawthorn (*Crataegus arnoldiana*)

General Description

Broadly rounded, low-branched tree with wide-spreading, horizontal branches which are densely set. This species performs well in North Dakota. Attractive white flowers and red fruit, thorny stems.

Leaves and Buds

Bud Arrangement - Alternate, sessile.

Bud Color - Round or oblong-ovoid, with about 6 exposed fleshy and bright red to reddish-brown scales.

Bud Size - Small.

Leaf Type and Shape - Simple, broadly-ovate, pubescent below.

Leaf Margins - Sharply-serrate above the entire base.

Leaf Surface - Fairly smooth, pubescent below.

Leaf Length - 1 to 3 inches.

Leaf Width - 3/4 to 1½ inches.

Leaf Color - Dark glossy green; yellow fall color.

Flowers and Fruits

Flower Type - Perfect, 1/2 to 2/3 inch in diameter, borne in 2 to 3 inch diameter, flat corymbs.

Flower Color - White, disagreeable odor, pink anthers.

Fruit Type - Pome, 1/4 to 1/2 inch in diameter.

Fruit Color - Bright red, glaucous.

Form

Growth Habit - Branches are upright to horizontal, broadly rounded in form.

Texture - Medium, summer; medium, winter.

Crown Height - 15 to 20 feet.

Crown Width - 15 to 20 feet.

Bark Color - Gray to brown.

Root System - Fibrous, spreading.

Environmental Requirements

Soils

Soil Texture - Adapted to a variety of soils.

Soil pH - 5.5 to 8.0.

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

Cold Hardiness

USDA Zone 3.

Water

Prefers well-drained soils. Moderately drought tolerant.

Light

Full sun.

Uses

Conservation/Windbreaks

Large shrub or small tree for field and farmstead windbreaks, and riparian plantings.

Wildlife

Used for nesting sites by many songbirds. Fruit is utilized by song and game birds. Browsed by deer.

Agroforestry Products

Food - Fruit is used fresh or processed.

Medicinal - Contains amygdalin and alkaloid crataegin which is used as a cardio-diuretic tonic. Used as an astringent in a decoction for sore throats.

Urban/Recreational

Specimen, screen and parks. Well-adapted to environmental stresses. Tolerates the soot and grime of cities.

Cultivated Varieties

Homestead Hawthorn (*Crataegus arnoldiana*

'Homestead') - Released by USDA-NRCS, Plant Materials Center, Bismarck, North Dakota. A cultivar seed strain.

Related Species

Downy Hawthorn (*Crataegus mollis*)

Snowbird Hawthorn (*C. x mordenensis* 'Snowbird')

Thornless Cockspur Hawthorn (*C. crus-galli* var. *inermis*) - Excellent small landscape tree.

Pests

No major insect problems. Cedar-hawthorn rust causes some disfiguration of the leaves, but it does not limit the usefulness of this selection.

Hazelnut



Taken from: <http://www.hort.uconn.edu/plants/c/corave/corave1.html>

● Habitat

- native to Europe, western Asia and northern Africa
- zone 4

● Habit and Form

- a deciduous small tree or large shrub
- typically 12' to 15' tall as a mature plant
- most often develops numerous upright stems from the roots, creating a thicket
- generally maintains an overall upright shape with a rounded head

● Summer Foliage

- alternate, simple leaves
- 2" to 4" long and 1.5" to 3" wide
- broadly ovate in shape
- doubly serrate margins
- leaves slightly pubescent above, pubescent below
- leaves mature to dark green

● Autumn Foliage

- reddish

● Flowers

- monoecious , with male and female flowers

- male flowers are large 2" to 3" pendulous catkins in 3's mostly
- blooming in late winter and early spring
- female flowers are small and inconspicuous

● Fruit

- a nut about 0.75" long, set in an involucre
- the distinctive husks (involucre) are somewhat noticeable in late summer and autumn
- fruit (nut) is edible and is grown as a commercial crop

● Bark

- pale brown or gray brown
- not a significant ornamental feature
- smooth on older stems

● Culture

- an adaptable plant
- does well on poor, dry soils
- full sun is best; also tolerates shade well
- selected clones are grafted and root suckers may need to be removed regularly

● Landscape Use

- as a specimen
- in small groupings
- for difficult, dry sites
- for edible fruit
- as a barrier
- for naturalistic areas
- for hedging

● Liabilities

- most notable liability is with selections that are grafted onto seedling stocks. The understocks usually sucker badly, creating a maintenance need.

● ID Features

- alternate leaf arrangement
- pubescent leaves
- suckering habit
- nut with an involucre covering
- large male catkins in spring
- twigs are bristly-hairy and rough to the touch

● Propagation

- seed requires warm then cold stratification
- cuttings are very difficult
- selections are grafted onto seedlings

Common Honeylocust



Common Honeylocust (*Gleditsia triacanthos*)

General Description

A fast-growing medium-sized tree adapted to a wide variety of soils, including alkaline soils. Seedlings are very susceptible to winter dieback. The largest tree in North Dakota is 60 feet tall with a canopy spread of 40 feet.

Leaves and Buds

Bud Arrangement - Alternate, zigzag pattern to the twigs.

Bud Color - Brown.

Bud Size - Terminal absent, laterals small, some scaly, rather inconspicuous.

Leaf Type and Shape - Pinnately compound, 20 to 30 leaflets, or bipinnately, 8 to 14 pinnae, leaflets are oblong-lanceolate; leaflets on bipinnate leaves smaller.

Leaf Margins - Remotely crenate-serrulate, base of petiole swollen and enclosing bud.

Leaf Surface - Smooth, pubescent on midrib beneath.

Leaf Length - 6 to 8 inches; leaflets, 1/3 to 1½ inches;

Leaf Width - 1 to 4½ inches; leaflets, 1/4 to 1/2 inch.

Leaf Color - Bright to deep green; yellow fall color.

Flowers and Fruits

Flower Type - Polygamo-dioecious, perfect and pistillate flowers on the same tree, in axillary racemes.

Flower Color - Greenish.

Fruit Type - Pods, sickle-shaped, twisted, 7 to 8 inches long and 1 inch wide.

Fruit Color - Seeds oval, brown to reddish-brown, and "hard as a bullet!"

Form

Growth Habit - Open, spreading crowns, produce only light shade.

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

Crown Height - 30 to 50 feet.

Crown Width - 30 to 40 feet.

Bark Color - Grayish-brown, broken into long, narrow, longitudinal and superficially scaly ridges separated by furrow.

Root System - Produces a strong taproot and a profusely-branched root system that can penetrate deep soils as far as 20 feet.

Environmental Requirements

Soils

Soil Texture - Most favorable sites are rich, moist bottomlands, but adapted to a variety of soils.

Soil pH - 4.5 to 8.0. Exhibits alkaline and saline tolerance.

Windbreak Suitability Group - 1, 1K, 3, 5.

Cold Hardiness

USDA Zone 4.

Water

Drought resistant. Best if not fertilized and watered since faster growth increases susceptibility to winter dieback.

Light

Full sun only.

Uses

Conservation/Windbreaks

Medium to tall tree for farmstead windbreaks or protected sites in southeastern counties of North Dakota.

Wildlife

Limited, but provides some songbird cover and fruit is eaten by small mammals and deer.

Agroforestry Products

Food - Sugar has been extracted from sweet pods.

Medicinal - Contains stenocarpine used as a local anesthetic.

Urban/Recreational

Only thornless male cultivars are recommended for boulevard, specimen, parks, and residential landscaping.

Cultivated Varieties

Imperial® Honey-locust (*Gleditsia triacanthos* var. *inermis* 'Impcole') - Round, spreading form, male.

Shademaster® Honey-locust (*G. triacanthos* var. *inermis* 'Shademaster')

Skyline® Honey-locust (*G. triacanthos* var. *inermis* 'Skycole') - More upright form, male.

Sunburst® Honey-locust (*G. triacanthos* var. *inermis* 'Suncole') - New leaves are yellow.

Honey-locusts are borderline in hardiness for North Dakota. Imperial and Skyline are fairly successful. Shademaster and Sunburst are not recommended for planting.

Related Species

Black Locust (*Robinia pseudoacacia*)

Kentucky Coffeetree (*Gymnocladus dioica*)

Pests

Honeylocust pod gall midge may distort leaflets. Very subject to Tubercularia and Thyronectria canker attack if bark is wounded or winter injury occurs. Extracts from *Gleditsia* species are toxic to several insect pests.

HONEY LOCUST

Gleditsia triacanthos L.

Plant Symbol = GLTR

Contributed by: USDA NRCS East Texas Plant
Materials Center



Herman, D.E., et al. 1996. *North Dakota tree handbook*

Alternate Names

Honey-shucks, Sweet Locust, Three-thorned-acacia,
Thorn tree, Thorny Locust, Sweet-bean

Uses

Landscaping

Thornless and fruitless varieties have been developed by the horticultural industry and are used extensively in landscaping. The trees are very hardy and are often used in parking lot islands and along side walks. The open canopy and small leaves will not shade out turf grasses or other landscape plants.

Wildlife

Honey locust is used extensively by wildlife. The bean pods are a favorite food of the white-tailed deer, squirrels, rabbits, hogs, opossums, and raccoons. Domestic animals such as sheep, goats, and cattle will also forage on the honey locust bean pods. Browsing and grazing animals, such as deer, cattle, and sheep utilize the tender shoots in spring and the bark of young trees in winter. Honey locust is

capable of forming dense thickets of thorny vegetation which provides excellent cover for a wide variety of game animals and birds. Flowers of this species are incredibly attractive to pollinating insects.

Timber

Wood from the honey locust is very dense, shock resistant and commonly used in the timber industry. Honey locust wood is easily split, capable of obtaining a high luster finish, and is durable when in contact with soil. For these reasons, timber from honey locust has been used as fence posts, railroad ties, furniture, warehouse or shipping pallets, tool handles and fuel.

Ethnobotanical

Native Americans used the dried pulp from the seed pods as a sweetening agent and a minor food source. The wood was used to make bows, and a variety of medicines were made from various parts of the plant.

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).

Weediness

This plant may become weedy or invasive in some regions or habitats and may displace desirable vegetation if not properly managed. 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 and Adaptation

Honey locust is a woody, long lived, native, deciduous, legume (Fabaceae family), and is capable of obtaining 100 feet in height. The doubly compound leaves are alternate and dark green in color. Large, red thorns are often found on the branches and trunk of wild trees. The thorns typically have 3 points, but may have more, especially those on the trunk. The bark is dark gray and black with deep fissures that form large "plates" of bark on mature trees. Long, twisted seed pods form in late summer, and turn from green to dark reddish brown as they mature. The size of these pods

is highly variable, and they give off a very strong, sweet aroma when they ripen and fall to the ground.

Honey locust is a pioneering woody species commonly found in overgrown pastures, fields, fence lines, and wood lot edges. It has a very broad range of adaptation, and is distributed nationwide, excluding Oregon and Washington. The greatest concentration of plants can be found in the central portions of the U.S. It prefers moist, fertile, alluvial soils. It will withstand periods of drought and prolonged wetness, and is commonly found in the upland areas along river drainages.

Establishment

This plant is often distributed by animals which have consumed the seed and passed them through their gut. This can be imitated by scarifying the seed mechanically or by using an acid bath. Seeds soaked in hot water (85 -90°C) and allowed to cool to room temperature have also germinated well. Seed that has been treated with these methods can be planted into a well prepared seed bed or container, approximately ½ inch deep. Seedling should be strong enough for transplanting at one year of age. Root cuttings have also been successfully used for propagation. Honey Locust requires full sun, and will not tolerate shading.

Management

Once established, trees are generally maintenance free. Pruning of lower limbs will encourage tall, upright growth.

Pests and Potential Problems

Honey Locust has few significant pests. Canker can sometimes be a problem, but rarely kills the tree.

This plant can become a nuisance, and will dominate a site if left unchecked or mismanaged. Honey locust can produce numerous thorns that are capable of puncturing implement tires. Though not listed as a toxic plant, contact with thorns often results in sore wounds that are slow to heal.

Environmental Concerns

Due to rapid growth, aggressive re-sprouting, and density of the wood, this plant has excellent potential for use as a biofuel either by direct burning of the wood or cellulosic ethanol production.

Control

Honey locust is intolerant of fire. Timely, periodic burning will eliminate it from open areas. Herbicides may also be used for control and suppression. Cutting young trees results in excessive re-sprouting

from the stump and roots, compounding the original problem exponentially. Stumps from cut trees must be treated with herbicide to prevent aggressive re-sprouts from forming dense thickets of thorny trees.

Please contact your local agricultural extension specialist or county weed specialist to learn what works best in your area and how to use it safely. Always read label and safety instructions for each control method. Trade names and control measures appear in this document only to provide specific information. USDA NRCS does not guarantee or warranty the products and control methods named, and other products may be equally effective.

Cultivars, Improved, and Selected Materials (and area of origin)

Thornless and fruitless varieties are readily available through the nursery industry.

Prepared By: *R. Alan Shadow*, Soil Conservationist, USDA/NRCS East Texas Plant Materials Center, Nacogdoches, TX

Species Coordinator: *R. Alan Shadow*, Soil Conservationist, USDA/NRCS East Texas Plant Materials Center, Nacogdoches, TX

Edited: 090108 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>>

The U.S. Department of Agriculture (USDA) prohibits discrimination in all its programs and activities on the basis of race, color, national origin, sex, religion, age, disability, political beliefs, sexual orientation, and marital or family status. (Not all prohibited bases apply to all programs.) Persons with disabilities who require alternative means for communication of program information (Braille, large print, audiotape, etc.) should contact USDA's TARGET Center at 202-720-2600 (voice and TDD).

To file a complaint of discrimination write USDA, Director, Office of Civil Rights, Room 326-W, Whitten Building, 14th and Independence Avenue, SW, Washington, DC 20250-9410 or call 202-720-5964 (voice or TDD). USDA is an equal opportunity provider and employer.

Read about [Civil Rights at the Natural Resources Conservation Service](#).

Honeylocust

Gleditsia triacanthos inermis

Growth Form: irregular, spreading

Crown Density: open, fine-textured

Size: 35-75 feet high
15-50 foot spread

Drought Resistance: very good

Cold Hardiness: very good

Growth Rate: rapid

Life Span: moderate to long

Elevational Range: to 7,500 feet

Possible Insect Problems: pod gall midge; scale insects

Possible Disease Problems: thyronectria canker; sunscald;
cytospora canker

Wildlife Value: low

Miscellany: usually thornless



Gleditsia triacanthos (Honeylocust)



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

Botanical Name: *Gleditsia triacanthos* gled-IT-see-ah try-ah-KAN-thos **Common Name:** Honeylocust **Genus:**

Gleditsia

Honey locust grows in the wild from Pennsylvania to Iowa and south to Georgia and Texas. In the landscape, this large, spreading, deciduous tree is valuable for its elegant form and pinnate, ferny leaves that cast a dappled shade. Flowers are generally inconspicuous, but are followed by unusual large seed pods. Fall color can be a nice yellow, but leaves sometimes fall without noticeably changing colors. The species has a thorny trunk and shoots, but thornless cultivars are available.

Noteworthy characteristics: Native to the eastern and central U.S. Ferny foliage doesn't produce heavy leaf litter. Interesting seed pods that look like large, twisted pea pods. Adaptable to a variety of growing conditions.

Care: This native tree is adaptable to any fertile, well-drained soil in full sun.

Propagation: Scarify seed and sow in containers in fall in an open frame. Cultivars can be budded in summer or grafted in late winter.

Problems: Tar spot, powdery mildew, twig and trunk canker, leaf spot, heart rot, and mushroom root rot are possible problems, as are caterpillars, mites, aphids, borers, webworms, honeylocust pod gall midges, honeylocust plant bugs, scale insects, and plant hoppers.

Height	Over 30 ft.
Spread	Over 30 ft.
Growth Pace	Fast Grower
Light	Full Sun Only
Moisture	Adaptable
Maintenance	Moderate
Characteristics	Native; Showy Foliage; Showy Seed Heads
Bloom Time	Spring
Uses	Specimen Plant/ Focal Point
Seasonal Interest	Summer Interest, Fall Interest
Type	Trees

Taken from: www.finegardening.com



Arnold's Red Honeysuckle

Lonicera tatarica 'Arnold Red'

Product Description

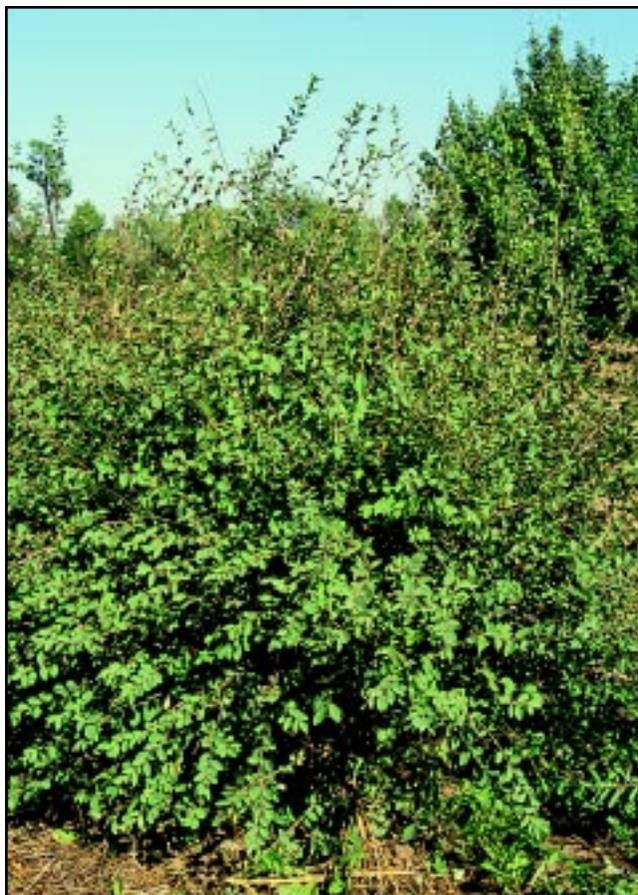
Sea green leaves on arching branches form a broad rounded shrub. Fragrant, pinkish-red, tubular flowers in late spring are followed by glossy red berries in mid summer.

Hardy to -40°F

Maximum Elevation: 10,000 Feet

Mature Size (generic)	SHRUB (6-10')
Fall Color	Subtle
Features	Showy Flowers, Fragrant Flowers, Attracts Hummingbirds, Attracts Butterflies
Flowering Season	Spring
Growth Rate	Fast
Light Needs	Partial Sun, Full Sun
USDA Hardiness Zone	3, 4, 5, 6, 7
Water Needs	Moderate
Mature Height	8-10 ft.
Mature Width	6-10 ft.
Name	Arnold's Red Honeysuckle
Flower Color Group	Pink

Freedom Honeysuckle



Freedom Honeysuckle (*Lonicera* x 'Freedom')

General Description

A medium-tall, open, irregular deciduous shrub with slender, spreading and arching branches. This cultivar was introduced by the University of Minnesota's Department of Horticultural Science and Landscape Architecture. Resistant to the Russian honeysuckle aphid. Dull-colored foliage.

Leaves and Buds

Bud Arrangement - Opposite.

Bud Color - Gray, pubescent.

Bud Size - Small.

Leaf Type and Shape - Simple, ovate-elliptic.

Leaf Margins - Entire.

Leaf Surface - Pubescent on both surfaces.

Leaf Length - 3/4 to 1¼ inches.

Leaf Width - 1/2 to 1 inch.

Leaf Color - Blue-green, very dull-colored foliage.

Flowers and Fruits

Flower Type - Borne in peduncled pairs from the leaf axils of short lateral branchlets.

Flower Color - White with a tinge of pink.

Fruit Type - Berry.

Fruit Color - Red, 1/4 inch in diameter.

Form

Growth Habit - Loosely open, spreading and arching branches.

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

Crown Height - 6 to 9 feet.

Crown Width - 6 to 9 feet.

Bark Color - Grayish-brown.

Root System - Fibrous, spreading.

Environmental Requirements

Soils

Soil Texture - Adapted to a variety of soils.

Soil pH - 5.5 to 8.0.

Windbreak Suitability Group - 1, 1K, 3, 4, 4C, 5, 6D, 6G, 8, 9C, 9L.

Cold Hardiness

USDA Zone 4.

Water

Somewhat drought tolerant.

Light

Full sun.

Uses

Conservation/Windbreaks

Medium shrub for farmstead windbreaks.

Wildlife

Berries are eaten by birds. Nesting cover for songbirds.

Agroforestry Products

Medicinal - The fruits of some *Lonicera* species are used as laxatives.

Urban/Recreational

Good for border and screen planting, but lacks ornamental quality.

Cultivated Varieties

Freedom Honeysuckle (*Lonicera* x 'Freedom') - Resistant to Russian aphid.

Related Species

Amur Honeysuckle (*Lonicera maackii*)

Blueleaf Honeysuckle (*L. korolkowii*) - Parent of Freedom Honeysuckle.

Tatarian Honeysuckle (*L. tatarica*) - Susceptible to Russian aphids causing severe witches brooming and decline of plants.

Pests

No major pest problems.