



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

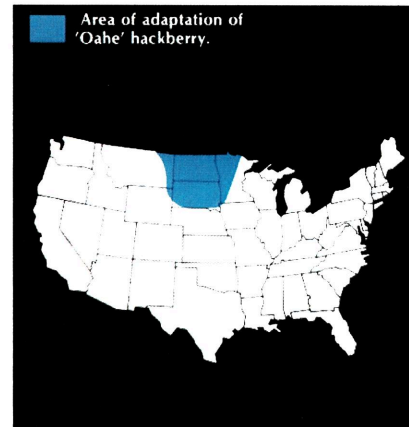
Oahe may grow 35 feet tall or more on favorable soils. The simple, alternate, coarsely toothed, light-green leaves are 2 to 4 inches long and 0.8 to 2 inches wide, with long, narrow, tapering tips. Three conspicuous ribs branch from the lopsided base. The upper part is smooth or slightly rough; the lower 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 41 degrees 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:
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