



United States Department of Agriculture

Soil Conservation Service

Program Aid Number 1339

'Oahe' hackberry



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'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. Oahe is winter hardy and disease resistant.

Description

Oahe may grow 35 feet tall on favorable soils. The simple, alternate, coarsely toothed, light-green leaves are 2 to 4 inches long and 0.8 inch 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.

This selection of hackberry has been tested as Mandan-12003. It was released in October 1982 by the Soil Conservation Service in cooperation with the 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.

Adaptation

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° F.

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. Clean cultivation and soils 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 clean-tilled plantings of Oahe.

Establishment

In the temperate zone, Oahe should generally be planted in the spring as soon as the ground thaws and when moisture conditions are best. The procedure used to break dormancy is placing the plants in moist sand or peat moss, covering them with plastic, and setting the temperature to about 90° F. The spacing between the plants should be 8 to 12 feet.



'Oahe' hackberry in a field windbreak

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.

Propagation

Oahe hackberry is a seed-propagated variety. Mature fruit can be handpicked in September and October. Hackberry seeds exhibit dormancy that can be overcome with stratification at 41° 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 1/2 inch of soil at a bed density of 10 to 15 seeds per square foot.

Availability

The United States Department of Agriculture (USDA), Agricultural Research Service, Northern Great Plains Research Center, Mandan, North Dakota, maintains breeder seed and foundation stock of Oahe hackberry. Certified seed (source-identified and selected class) are available through the USDA, Soil Conservation Service, Plant Materials Center, P.O. Box 1458, Bismarck, North Dakota, 58502. Assistance is available without regard to race, creed, color, sex, age, or national origin.

