



TREES AND SHRUBS

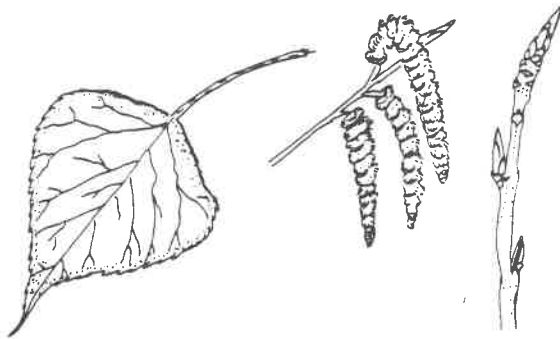
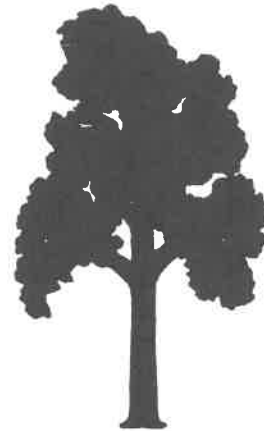
Flood Plain Prairie Forest Species
Urban Forest Species
Windbreak Forest Species

EASTERN AND PLAINS COTTONWOOD

(*Populus deltoides*) and (*Populus deltoides* var. *occidentalis*)

Description

Populus is the Latin name for poplars. *Deltoides* refers to the triangular-shaped leaves. *Occidentalis* is Latin for "west." Other common names for eastern cottonwood are eastern poplar and cottonwood. Other common names for plains cottonwood are plains poplar and Sargent cottonwood. American Indians may not have distinguished the two since different names have not been identified. The Lakota know them as *canyáh'u*, meaning "peel off wood," and the Omaha as *maazho*.

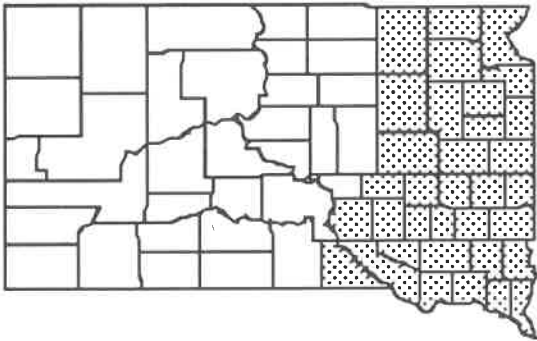


alternate, simple, 3 to 6 inches (8 to 15 cm) long, triangular-shaped with serrate margins. Flowers occur in the spring before the leaves appear, they are *dioecious* and in hanging *catkins*. Fruits are 1/4 inch (.64 cm) long, 3 or 4 valved *capsules*. The twigs are yellowish brown and smooth. The terminal buds are long and resinous. The bark is ash-gray and divided in thick flattened ridges with deep furrows.

Cottonwoods are members of Salicaceae, the willow family, along with willow (*Salix* spp.) and quaking aspen (*Populus tremuloides*). The leaves are *deciduous*,

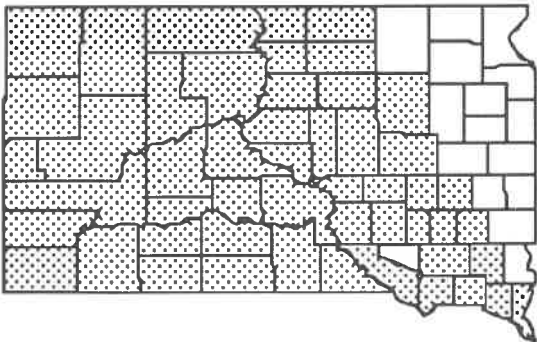
Distribution

Eastern cottonwood is found throughout the central United States. It occurs from New York to Kansas (where it is the state tree), as far north as central Minnesota and south to the Gulf of Mexico. In South Dakota, eastern cottonwood is native to the eastern 1/4 of the state.



Eastern Cottonwood Native Distribution

Plains cottonwood is native throughout the central plains from Texas to Manitoba. It occurs in the western 3/4 of South Dakota. Some botanists believe these trees are not two different varieties and group them together as eastern cottonwood. Other botanists have separated the two into two species with plains cottonwood given the Latin name *Populus sargentii*. Regardless of the taxonomic split, the use and ecology of the two trees are similar and they are grouped together in this fact sheet.



Plains Cottonwood Native Distribution

Wherever it occurs naturally, cottonwood is found growing along lakes, streams, and rivers. Cottonwood reaches its best development on the moist, sandy, *allu-*

vial soils found on flood plains. Usually willow grow closest to the water, with the cottonwood on slightly higher, and drier, ground. If the two occur together, cottonwood usually dominates the stand within 20 years because its faster growth rate allows it to grow above and shade out the intolerant willows.

Cottonwood, as with willow, is a *pioneer species*. It is also very intolerant of competition. Cottonwoods tend to seed into a new flood plain and develop as pure, even-aged stands. As cottonwoods mature (about 50-70 years after the stand begins), they are gradually replaced by the more tolerant ash and elm. In some areas of central South Dakota, cottonwood has an understory of eastern red cedar (*Juniperus virginiana*).

Natural History

The two greatest threats to cottonwood are fire and drought. Cottonwoods are very vulnerable to fire, light burns will kill seedlings and saplings. Hotter fires can severely injure the bark on older trees, which opens the trees up to decay. While they are moderately drought tolerant, a long-term dry spell will lead to death.

Life Span: Cottonwood is not a very long-lived tree. As with their close relative, willow, cottonwoods usually live about 70 years. A 120 year old cottonwood is a very old tree.

Size: While cottonwoods may not live very long, they are very fast growing so big trees are a common sight. The largest cottonwood is in Grundy County, Illinois. It is 373 inches (947 cm) in circumference, 132 feet (40 m) tall with a branch spread of 99 feet (30 m). The largest in South Dakota is a plains cottonwood near Richland in Union County. It is 344 inches (873 cm) in circumference, 114 feet (35 m) tall with branch spread of 113 feet (34 m).

Significance

Wood of the cottonwood is light. It was important as a construction material for the American Indians and European settlers. Cottonwood, because of its abundance, was used to build barns and houses. Occasionally large cottonwoods, 4 to 6 feet (123 to 183 cm) in diameter, were cut down and burned out to form a crude canoe. Today cottonwood is used for pulp and sometimes lightweight furniture. Cottonwood is also used as a windbreak species although it is not highly recommended due to its short life expectancy. Two common windbreak cottonwoods used today are Siouxland (*P.*

deltoides 'Siouxland') and Northwest (x *P.* 'Northwest'). Siouxland is a cottonless male *cultivar* developed in South Dakota. It is losing popularity due to susceptibility to several diseases. Northwest is a hybrid of *P. deltoides* and balsam poplar (*P. balsamifera*). It is fast growing and has a longer life span.

The Dakota ate the sweet inner bark of young sprouts of cottonwood trees in the spring. They also fed young cottonwood branches to their horses. A dye was made from the leaf buds. The Sacred Pole, used in ceremonies of the Omaha Indians, is made of cottonwood.