

## TREES AND SHRUBS

### Black Hills Forest Species

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# QUAKING ASPEN

(*Populus tremuloides*)

## Description

*Populus* is the Latin name for this group of trees. *Tremuloides* means tremula-like, because of the resemblance to the European species of aspen, *Populus tremula*. Other common names are trembling aspen and popple. The Lakota know it as *canitazipa*, meaning "bow tree."

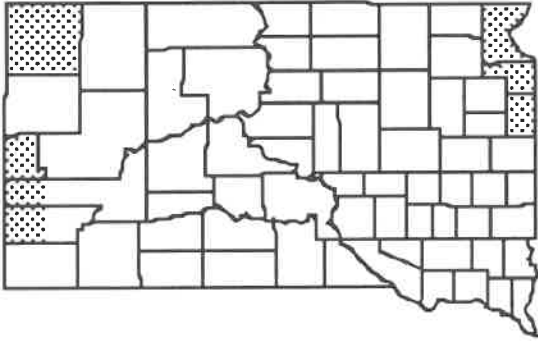


Aspens belong to the willow family Salicaceae, along with willow (*Salix* spp.) and cottonwood (*Populus deltoides*). Aspen leaves are *deciduous*, *alternate*, *simple*, 1.5 to 3 inches (3.8 to 7.6 cm) long, and oval. Each has fine teeth on the *margin*. The flowers are in drooping *catkins* that are not very showy. The fruit is a 2 to 4-valved *capsule*. Aspen twigs are slender, reddish brown with shiny buds. The bark is smooth and greenish white, but on mature trees the bark becomes furrowed and dark gray.



## Distribution

Quaking aspen is one of the most widely distributed trees in North America. It grows across Canada and the northern United States, from the Atlantic to the Pacific. Quaking aspen can be found growing as far north as the Arctic Circle and as far south as the mountains of central Mexico. In South Dakota, quaking aspen grows along Big Stone Lake in Roberts County and in the Black Hills. It can be planted in the eastern one-fourth of the state.



### Native Distribution

Quaking aspen is an aggressive *pioneer species*. It establishes itself in areas after a fire and tends to maintain itself on those sites for several successive generations. Quaking aspen is an intolerant species and is usually replaced by conifers (Black Hills spruce in the Hills). It is a slow process, taking over a thousand years for aspen to be succeeded by a *climax* coniferous forest.

The species grows best on a porous, loamy soil, rich in lime. In southern locations, it is typically found on north or east-facing slopes. In the Black Hills, quaking aspen is often the *transitional* species between the grasslands and the coniferous forest. In some areas of the Hills that have been fenced off to exclude livestock, quaking aspen is invading the grasslands.

### Natural History

Quaking aspen's root suckering ability is extremely beneficial. A tree will send up several suckers every year or so. These suckers will quickly grow to become trees and soon send out their own roots which in turn will produce more suckers. By this manner of propagation, an entire forest of aspen can be connected by a common root system.

Fire is one of the greatest threats to quaking aspen. A moderate fire may kill

the thin-barked tree. Light fires may injure the bark and allow decay fungi entry. These decay fungi can eventually hollow out the tree which may cause the tree to break and fall. Fire, however, is also important for seed germination. As with birch, aspen require a sunny seed bed for germination to occur.

Another common problem of quaking aspen is grazing animals. Small mammals, such as mice and rabbits, may eat away all the lower bark of a tree. Larger mammals, such as deer, may eat the young trees or damage saplings by rubbing their antlers on the bark.

**Life Span:** Quaking aspen is a short-lived species. The average life span is 70 to 100 years.

**Size:** Quaking aspen does not become a very tall tree. The national champion in Ontonagon County, Michigan is 122 inches (310 cm) in circumference, 109 feet (33 m) tall and has a crown spread of 80 feet (24 m). South Dakota has not yet designated a state champion.

### Significance

Quaking aspen was once considered worthless by loggers. They called it a "weed tree" since there was no market for it. Today, quaking aspen has become "green gold" with its use as pulp for paper production. In northern Minnesota thousands of acres of aspen are managed for this purpose.

In the Black Hills, there is not enough quaking aspen to make it an important timber species. It does have other values, however. Quaking aspen is an important tree on recreation sites and is also useful to wildlife. Ruffed grouse feed on the flower buds during the winter. Aspen stands also provide food and cover for many other wildlife species.

Publication of the *Quaking Aspen* fact sheet was funded by the S.D. Department of Agriculture, Division of Forestry, Pierre, SD.