

TREES AND SHRUBS

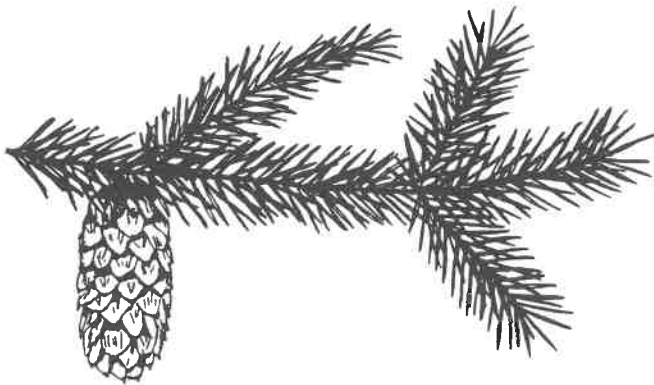
Windbreak Forest Species
Urban Forest Species

COLORADO BLUE SPRUCE

(*Picea pungens*)

Description

Picea is the Latin name for the pine, spruce or fir, from the Greek *pissa*. *Pungens* is from *pungere*, the Latin word "to sting". The needles of the blue spruce are very sharp pointed. Another common name is Colorado spruce. The Navajo call it *ch'o deeni'nii*. The Lakota did not have a name for Colorado blue spruce since it was not found on the prairie.



The Colorado blue spruce is a member of Pinaceae, the pine family, along with ponderosa pine (*Pinus ponderosa*) and Black Hills spruce (*Picea glauca* var. *densata*). The leaves are evergreen, 3/4 to 1 1/4 inches (2 to 3 cm) long, 4-sided needles that are dull green to silvery-blue. Cones are orange (male) or greenish



(female). The mature female cone is cylindrical and 2 to 4 inches (5 to 10 cm) long with papery scales. Blue spruce pollen is wind borne. Twigs become orange-brown with age. The bark is gray and composed of thin, loosely attached scales.

Distribution

Colorado blue spruce is native from northwestern Wyoming and eastern Idaho to Arizona and New Mexico. It is found at elevations between 6,000 and 9,000 feet (183 to 274 km). While Colorado blue spruce has been planted

throughout South Dakota, its best growth is in the eastern part of the state. The best sites are moist, sunny locations. Colorado blue spruce is not shade tolerant. The tree does do better in dry soils than most spruce, however.

Natural History

Colorado blue spruce is afflicted by a number of diseases and insects. Probably the most serious disease problem is *cytospora canker*. This fungus disease lives in the trunk and branches of many species of spruce, including Colorado blue spruce. The disease causes the mortality of the lower branches and gradually works its way up the tree. While this is the most serious problem of Colorado blue spruce, this tree is also affected by several needle diseases like pine needle scale and insects such as the white pine weevil. When planted as windbreaks, the Colorado blue spruce is also very susceptible to herbicides.

Life Span: Colorado blue spruce can live 200 years or more. Since it has only been planted for about 100 years in South Dakota, its maximum life span in

our state is not yet known. Its useful life span as a windbreak or *ornamental* tree is about 40 to 60 years, beyond that it begins to deteriorate.

Size: Colorado blue spruce often reach a height of 60 to 70 feet (18 to 21 m). The national champion in the Ashley National Forest in Utah, is 186 inches (472 cm) in circumference, 122 feet (37 m) tall, and has a crown spread of 36 feet (11 m). In South Dakota, our champion Colorado blue spruce is growing near Bryant. It is 76 inches (193 cm) in circumference, 61 feet (19 m) tall and has a crown spread of 34 feet (10 m).

Significance

In South Dakota, and other places it is planted, Colorado blue spruce is primarily used as a windbreak and *ornamental* tree. As an *ornamental* tree, it is often selected for its blue color that comes from the powdery, waxy layer on the needles. This characteristic is under genetic control so the intensity of blue is determined largely by the seed source. The blue coloring is not affected by how you care for the tree.