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Black Hills Spruce
Picea Glauca V. Densata
Engelmann Spruce
Picea Engelmanni
Colorado Spruce
Picea Pungens

General

Black Hills spruce is a regional variety of white spruce that is found in South Dakota's Black Hills and some parts of NE Wyoming. Black Hills spruce is a remnant of the colder climate that existed when glaciers covered North America. The tree has dense, small needles that are a rich green to blue-green color and very attractive. Black Hills spruce prefers streamside growing sites or north and east slopes where the temperature is slightly cooler. They are generally found from about 3,000 ft to 9,000 ft in elevation. They do best in acidic soils and are extremely cold hardy. They can be among the most beautiful of coniferous trees for bonsai.

Light

Black Hills spruce prefers partial shade during at least part of the day. The best location would give them full bright sun in the morning and then at least some shade during the heat of the afternoon. The roots should be protected from overheating during the summer.

Water

Black Hills spruce should be watered regularly. This species can be found growing on both upland and wet sites and is not as susceptible to overwatering as western pines or junipers. Although it is drought resistant and tolerates dry conditions well, it prefers soil that is moist and cool. In the summer I usually water lightly every morning and more thoroughly in the evening. A small pot will require more frequent watering than a large one. Even so, missing a watering or two under most conditions is no cause for concern.

Winter

Black Hills spruce is extremely winter hardy and can easily tolerate temperatures well below zero when precautions are taken. They can be

wintered outside on the ground in a shaded area out of the wind with the pot covered in mulch to the rim. They can be kept in an unheated garage or greenhouse. They should probably freeze at least once or twice per winter to ensure dormancy and can stay frozen for the whole winter without harm. In their native environment they may have occasional nighttime freezes during almost any month of the year. The root system can be damaged by periods of warmer winter weather followed by sudden, intense cold snaps however, so it is best if they are kept in a spot where temperatures will remain relatively cool and stable.

Fertilizer

A mild fertilizer of almost any kind will work well. A slow-release fertilizer like Osmocote, or Bio-gold works well. Spruce should be fertilized regularly.

Training

Black Hills spruce is extremely flexible and can be given dramatic bends with copper wire. The tree will hold its shape well after the wire has been on about two years. The upper branches are prone to grow around the wire quickly and create scars though, so they should be watched and the wire cut off at the first sign of scarring.

Old specimens of Black Hills spruce can have beautiful, thick trunks that are contorted into fantastic and graceful shapes. Specimens like that are difficult to find and may take a couple years in a pot before they regain their vigor. Younger specimens generally have tall, thin trunks and make excellent forests or literati specimens. They transplant easily and are very hardy.

The foliage on Black Hills spruce is dense and perfectly proportioned for bonsai. To increase branching and ramification pluck the strong terminal and lateral buds in the spring just as they are starting to open. Leave the smaller inner buds alone. In 4-6 weeks a new set of buds will appear and open. These shoots may then be thinned and pinched back to the desired length. Don't wait too long though, or you won't get a new bud on the end of the shoot.

Repotting

Generally a newly collected tree takes about three years to re-establish its root system in its new container. At this time there is usually a noticeable increase in vigor and this is a good sign that the tree is ready for repotting. The best time for this is in the spring, after all danger of freezing is past. At this time dead roots can be removed, excessively long roots can be trimmed and more of the remaining original soil can be washed off. The planting angle can be adjusted to fit the new container.

There may be good reasons to repot before three years; a tree may already be strong and vigorous, a pot may have cracked or other reasons. In this case it is usually better to just move the tree into its new pot while trying to disturb the root system as little as possible. A newly repotted tree should always be protected from freezing.

Engelmann and Colorado spruce

Engelmann spruce occur further west than Black Hills spruce, but there are only minor differences between the two and as far as bonsai goes they can be treated identically.

Colorado spruce occur south and west of Black Hills spruce. Basic care is the same but they are a bit more drought tolerant than Black Hills spruce, and able to take more direct sun and heat.

Spruce tend to be susceptible to mites, including spider mites, so use of a miticide is recommended for prevention.