

PLANT HEALTH CARE REPORT



Spruce

Spruces are admired for their elegant pyramidal form and are often planted as specimen trees or wind screens. Colorado blue spruce (*Picea pungens*) is a medium-to-large species of spruce and bears bluish foliage. Norway spruce (*Picea abies*) is similar but with green needles and often more pendulous branchlets. When young, Norway spruce grows faster than blue spruce.

Spruces transplant moderately well due to their shallow root system. They grow best in full sun. Spruces are adaptable to most soil types, but maximum growth is achieved when the soil is rich, moist, and well drained. Slightly acidic soils with a pH range of 6 to 7 are preferred for blue spruce while Norway spruce grows best when the pH is 5 to 7. Irrigation is usually required in summer drought.

Blue spruce is commonly infected with canker fungi. These fungi infect lower branches of stressed trees causing branch dieback. If left untreated, the canker may



Colorado blue spruce



Norway spruce

progress to the stem, killing the tree. Needlecast fungi, such as *Rhizosphaera* and *Stigmina*, cause gradual lower branch dieback. Blue spruce is highly susceptible to needlecast infections while Norway spruce is relatively resistant if not stressed. Decline of spruce is often traced to stress, caused by a soil or root problem. Phytophthora root rot and nematodes attack roots of both spruce species. Mulch is highly beneficial to spruce because it protects their shallow roots from temperature extremes, retains soil moisture, increases soil nutrients, and aids in building soil structure.

Spruce gall adelgids cause tip dieback and cone-like swellings on branches. Heavy



infestations damage the appearance of the tree and slow branch growth.

Spruce spider mite feed on needles causing discoloration and premature defoliation (see photo at right).

White pine weevil attacks the growing tip in the spring causing



Monitoring and Treatment Considerations for Spruce

Winter

Remove dead, dying, diseased, and broken branches. Remove dropped needles if needlecast symptoms are evident. Reduce or remove codominant stems to promote appropriate structure. Sample soil for nutrient and pH analysis.

Early spring

Apply treatment to suppress white pine weevil if symptoms are present from previous year. Monitor for mites; treat as needed.

Mid-spring

Apply treatment to suppress needlecast if symptoms are present from previous year. Monitor for mites; treat as needed. Fertilize, adjust pH, and amend soil according to soil analysis.

Late spring

Repeat treatment to suppress needlecast. Monitor for pine needle scale and mites; treat as needed.

Early summer

Repeat treatment to suppress needlecast. Monitor for spruce bud scale, sawfly, and mites; treat as needed. Monitor irrigation and soil moisture to minimize water stress and prevent root disease.

Midsummer

Monitor for pine needle scale and mites; treat as needed. Remove terminals with white pine weevil injury. Monitor irrigation and soil moisture to minimize water stress and prevent root disease. If decline is evident, submit root samples for Phytophthora root rot testing.

dieback. This may lead to spruce producing structurally weaker, codominant stems.

Other insect pests include spruce bud scale, pine needle scale, and sawflies.

Late summer

Monitor for mites; treat as needed. Monitor irrigation and soil moisture to minimize water stress and prevent root disease. Inspect mulch levels and adjust as needed.

Fall

Monitor for gall adelgids and mites; treat as needed. Fertilize, adjust pH, and amend soil according to soil analysis.
