

Garden Update

Week of May 23, 2021

Kathleen Cue, Nebraska Extension Horticulture Educator in Dodge County

Colorado Spruce

The Christmas tree shape of Colorado spruce is beautiful indeed, but several common problems make growing them a challenge.

Deep Cold

February's hard hit of negative double digit cold resulted in the tops dying out of spruce trees. This caused cracks to develop in trunk tissues that then leak sap. This is apparent with the accumulation of white crust on the trunk and branches. Once cracks develop, canker pathogens like *Cytospora* gain access to conductive tissues within the tree, widening the wound. Unfortunately, sprays and drenches do not counter the effects of *Cytospora* canker. Prune out the dead central leader and re-train a lower branch to take over as the new central leader. Branches below the new central leader can be cut back to restore the pyramid shape. [How To Prune Coniferous Evergreen Trees \(uidaho.edu\)](#)

Spruce Spider Mite

The spruce spider mite is a small sucking pest of spruce and other evergreens. With their needle-like mouthpart, the spruce spider mite removes sugars, sap, and chlorophyll from foliage. When mite populations are high, needles present an off-color appearance of dusty green. Leaves eventually turn brown altogether and fall from the tree. The spruce spider mite is active in the cooler parts of the season, with activity peaking in spring and fall. A hand lens or a microscope is a handy tool to identify spruce spider mites, but the paper test can also be applied. Using a sheet of white paper, tap a branch over the paper and look for small dots moving across the page. Miticides are effectively applied when mites are active in spring and fall. Rainfall has a nice way of keeping mite populations down by drowning them. [Ins of ev 3-6-09 \(unl.edu\)](#)

Bagworm

Tear drop-shaped bags and loss of needles are clear indications of bagworm infestations. A few caterpillars can defoliate trees in a relatively short time frame, leaving branches bare and killing next year's growth buds. Products containing the active ingredient *Bacillus thuringiensis* (Bt) can be applied in mid-June to early July to target these caterpillars when they are small. As the caterpillars grow, so do their appetites, causing significant defoliation and being difficult to manage as well. Come August, caterpillars are too big to manage with insecticides and hand-picking bags from trees is really the only option. [Be On the Lookout for Bagworms | Nebraska Extension: Community Environment | Nebraska \(unl.edu\)](#)

Rhizosphaera Needle Cast

This fungal disease, caused by the pathogen *Rhizosphaera kalkhoffii*, interferes with intake of carbon dioxide through the needles. The needle's breathing structures, known as stomates, are clogged with the fungus's spore producing structures. Without the ability to breathe in carbon dioxide and exhale oxygen, trees are unable to photosynthesize, starting a cycle of decline that, if left untreated, can cause defoliation and death to the tree. Cool wet springs provide the perfect conditions for development of needle cast. A hand lens or microscope is handy for spotting infected stomates, which appear as rows of black dots on needles. Good air circulation, keeping irrigation water from wetting foliage, mulching beneath trees, and application of a fungicide will manage needle cast. [Dis of ev 1-20-09 \(unl.edu\)](#)

Tree Overuse

Colorado spruce is suited to rocky, well-drained soils, in locations that receive 6 or more hours of direct, uninterrupted sunlight daily. Heavily irrigated clay soils and shady sites are situational conditions ripe with opportunity for decline, necessitating costly interventions that may or may not work.

With the tree popular for use as accents in front yards, as windbreaks, and in allées, the Colorado spruce has become the dominant evergreen in the landscape. As with any over-used plant, a major concern is the potential for an emerging insect or disease problem to infest the species (think: emerald ash borer for ash, Dutch elm disease for elm, and pine wilt for pine.) Diversity is always the best choice, especially when utilizing trees with insect and disease resistance. Substitutions for this much-overused tree include juniper, Concolor fir, Douglas fir, Fraser fir, Norway spruce, Black Hills spruce, and Ponderosa pine.