

Some Significant Tree Diseases of the Powell Area

Sudden Needle Drop

A number of conifer trees have been exhibiting some signs that concerned people have contacted the City Arborist about. Evergreen trees and shrubs are among the most useful and valuable assets on any property. A large number of trees with needles have been planted in the Powell area. Colorado blue spruce is the major species. Problems that may occur are seen in the spring of the second year on new growth. Some of the needles may appear to be a faded or darker green color than the other needles on the tree and gradually begin to turn brown or purplish brown. Eventually the needles begin to fall off. A few at first and then entire branches. And this can be seen in sporadic patches throughout the tree beginning with the lower branches.

There can be several causes of this die back. If winters are severe, the needles will suffer what is known as “winter burn.” This occurs when the sun heats up the needles causing water loss, but the ground is frozen so the plant cannot replenish its supply. Desiccation (drying out) occurs and the needles turn brown and fall off. Winter burn is seen mainly in the spring and on the sunny side of the tree. If you see evidence of this the best solution is the application of an anti-desiccant in the fall. This is essentially a protective layer covering the tree that reduces the water loss through the winter.

Sprinklers can be both a cause and a solution to many evergreen problems. Trees and shrubs need water so of course, sprinklers can do well. However, if sprinklers are frequently wetting the needles it can lead to foliage being excessively wet in turn creating damaging fungal problems.

One of the most serious fungal problems is *Rhizosphaera* needle cast. Unfortunately Colorado blue spruce happens to be most susceptible to this disease. The infection typically begins in the lower branches of the tree because this is the portion of the tree is most likely to have longer periods of wet conditions on it. The spores of the fungus grow out in the spring in May and June but it takes until late the following or even the next spring for there to be noticeable symptoms. Infected needles appear purple or purple brown at first, eventually turning brown. Then they fall from the tree. An inspection with a magnifying glass will usually reveal black spots in a row along the length of the needle. These are the fruiting bodies from which spores become windblown and splashed by rain or sprinklers. Eventually entire sections of the tree will die off from the bottom up.

The best way to treat these serious problems is to have a professional inspect the trees for signs and symptoms. The dead or dying branches must be removed from the tree and as much of the fallen needles raked up and removed as possible. While you can't reverse the damage done to the tree you can keep it from spreading. If needle cast is a serious problem then consideration should be given to have the tree sprayed with a fungicide. The active ingredient in the fungicide should be *chlorothalonil* and it is applied in the spring before the fruiting bodies mature.

There are many benefits that evergreen trees provide in the landscape. Keeping them healthy will allow you to enjoy those benefits for many years.