Prevent Spread Of Pine Wilt With Inspection And Disposal

Most Nebraskans have heard of the new problem facing Nebraska's pine trees called pine wilt, which is caused by the microscopic pinewood nematode. This nematode is unusual, compared to other plant-parasitic nematodes, because it lives entirely in the above ground parts of the tree and never enters the soil. A separate native insect, called the pine sawyer beetle, acts as an insect vector carrying nematodes from tree to tree spreading the disease.

A typical early symptom of pine wilt infection is "fading". Pine needles turn grayish-green, then tan and finally, brown. Often the entire tree will fade all at once, but sometimes the top of the tree may be affected first or some of the side branches. Resin flow from the wood ceases and the wood is dry when cut, compared to wood from healthy pine trees which will quickly ooze resin and become sticky after cutting. Needles can remain on a dead tree for a year or longer. Once the pine sawyer beetle introduces the nematode, the infected tree typically dies within a few weeks or months. Some trees fade during the summer, and more begin to fade in August and September, continuing through the fall and into spring.

Scotch pine is the main host of pine wilt, but the disease also occurs in Austrian, Jack, Mugo and Red pine. As pines age, their susceptibility to pine wilt increases. Most cases appear in trees more than 10 years old. However, the disease does not affect other conifers, such as spruces, firs, and red cedars or junipers.

This fall homeowners and farmers should check their yards and windbreaks for trees showing signs of pine wilt. Nematodes are not visible to the eye, but can easily be spread by the pine sawyer beetle to entire windbreaks or plantings in a few years. To determine if dead or dying trees are infected with the pinewood nematode, take a 1-inch thick sample from a branch 3 inches or more in diameter near the trunk or take a wedge-shaped sample of wood from the lower trunk or base of large lower limbs. Keep samples cool and in a plastic bag. Samples can be submitted, at a cost of $10.00 per sample, for analysis to the Plant and Pest Diagnostic Clinic, University of Nebraska-Lincoln, 448 Plant Science Hall, P.O. Box 830722, Lincoln, NE 68583-0722.

Sanitation can prevent or slow the spread of pine wilt. Cut down infected trees and burn, bury or chip them. The stump should be removed down to the ground, if possible. This should be done as soon as the infection is discovered to prevent pine sawyer beetles from emerging from the tree and carrying the disease to other healthy trees. Do not hold the wood for firewood. Dead trees must be removed and destroyed by May 1.

Research on chemical methods of preventing pine wilt infection has shown that trunk injection of the insecticide/nematicide Greyhound protects about 70% of treated trees for approximately 3 years, but because of the large amount of product required the treatment is expensive and is probably only worth considering for very high value trees. As an example, a tree with a trunk diameter of 10 inches would cost the owner about $300 to treat.

Replant affected windbreaks with resistant evergreens, such as spruce and eastern red cedar, or with a combination of deciduous trees and shrubs.