

Now that warmer weather has arrived, I have been actively involved in yard and garden visits. Although I have written about this topic before, seeing it again raise its ugly head in large numbers of trees prompts me to address the problem once again. Although we have missed the opportunity for treatment in May, the time is right for treatment in June.

One of the most common fungal diseases of pines in Nebraska is *Dothistroma* — needle blight. This disease is responsible for much of the premature needle drop in older stands of pines, those plantings twenty to thirty years of age and older. The disease affects twenty species of pine; however, in central Nebraska, this fungal disease is found most commonly and causes the greatest amount of damage to Austrian and Ponderosa Pine. Infection from this disease year after year can prove fatal to these trees.



Symptoms of infection begin in the fall. Yellow or tan spots appear on older needles. These spots darken, turn brown or reddish-brown, and spread to form a band around the needle. A yellow, chlorotic ring on each side often borders these bands. The fungus grows within these rings, killing that portion of the needle beyond the lesion.

Initially, the tip of the needle dies while the base remains green; but

eventually, as the disease progresses, the base of the needle also dies; and the entire needle drops off the tree. Typically, clusters of needles within a shoot are infected. Lower branches of trees are usually and most severely infected although the entire tree can be affected. Usually the greatest amount of needle drop is seen in the late spring or early summer following infection.

Infection by fungal spores occurs during rainy periods from May to October. Germinating spores enter the needles through natural openings, and the infection usually becomes visible in late fall. Infection of susceptible needles can be significantly reduced with liquid (Tenn-Cop 5E or Black Leaf Liquid Copper Fungicide) or fixed (Camelot or Bordeaux) copper formulations. The mixture should be applied twice during the growing season for best treatment.



The first application should be done in mid-May protecting the existing needles. The second application, which protects the current season's new growth, is made after considerable new growth has taken place, usually around mid June. Interestingly, this spring's new growth is resistant to infection and will not become susceptible until midsummer, around July.

Effective control can be achieved in some cases with only a single application of fungicide made in early June. However, there is considerable risk with this procedure since infection could occur in the older needles before the June application is made.

Annual applications of fungicide are not always necessary to control this disease. Monitor susceptible pines for symptoms of infection each year. If infection occurs during a year in which fungicide has not been applied, and is severe enough to warrant control, then fungicide can be applied the next year with confidence that good control will be successful. If little or no infection occurs during a year when fungicide was not applied, then spraying can be skipped for another year.

If you have an older windbreak or ornamental planting of either Ponderosa or Austrian pine, I urge you to examine them for needle blight.