

## **Problem: Diplodia Tip Blight** - *Diplodia (Sphaeropsis) sapinea*



**Host Plants:** Austrian pine, ponderosa pine, Scots pine and mugo pine.

**Description:** Tip blight is a fungal disease that affects Austrian, ponderosa, Scots, and mugo pines. The disease is most severe on mature trees (20 years or older). Repeated infections over many years can kill large sections of trees or entire trees.

Tip blight symptoms first appear in late May or early June. The newly developing shoots (candles) fail to grow. The shoots are stunted, and the emerging needles are stunted and turn yellow or tan (see above). Dried resin is often found on the dead shoot tips. The damage usually starts in the lower part of the tree and works its way up over several years. In trees that have been repeatedly infected for many years, damage is distributed throughout the crown. The disease can also act as a canker, invading older tissues and causing extensive branch dieback. White pines are not susceptible to the tip blight phase, but they are susceptible to the canker phase of the disease. In late summer or fall, tiny black spore-producing structures (called pycnidia) are formed on the scales of 2-year-old cones — it looks like black pepper has been shaken onto the cones. The same black specks are also sometimes visible at the base of the infected needles later in the summer.

Tip blight can be confused with winter damage or infestation by the pine tip moth. However, winter damage usually results in shoot or needle death before new needles emerge in the spring, and it is sometimes restricted to one side of the tree (the side facing the prevailing wind). Unlike tip blight, the tip moth causes a hollowed-out area in the tip/bud area, and the larvae are sometimes present. In addition, tip moth attacks trees of any age, but tip blight is most common on mature trees.

**Recommendations:** Cultural practices: Removal of dead branches can improve the appearance of diseased trees but will not prevent infection since many of the spores are produced on cones that remain attached to the tree. Trees with tip blight should be adequately watered and fertilized to maintain tree vigor.

Fungicides: The critical time for chemical management is when the new shoots are expanding in the spring. Fungicides applied at that time can prevent new disease. Although pine trees are not native to Kansas, they have been widely planted for ornamental, windbreak, and conservation purposes. Scots (*Pinus sylvestris*) and white pine (*P. strobus*) are particularly sensitive to drought. Several pines, including Austrian (*P. nigra*) and ponderosa (*P. ponderosa*), are reasonably adapted to Kansas conditions; however, they can suffer environmental stresses. These pines are also susceptible to several diseases. These diseases can cause defoliation, dieback, and even death. The publication referenced below highlights the most common and serious of these diseases in landscapes and windbreaks in Kansas: tip blight, Dothistroma needle blight, and pine wilt. Pines also go through a healthy, normal process called natural needle drop. Accurate identification is important because control measures are different for each condition.

Suggested fungicides include:

Propiconazole (Banner MAXX, Fertilome Liquid Systemic Fungicide II, Bonide Infuse Systemic Disease Control)

Thiophanate-methyl (Cleary's 3336F and 3336WP, T-Methyl, T-Bird);

Mancozeb (Dithane, Manzate, Protect DF)

Copper (Camelot, Monterey Liqui-Cop, Bonide Liquid Copper Concentrate)

Thiophanate-methyl + chlorothalonil (Spectro 90WDG)

Apply the first application when the buds begin to swell (usually 3<sup>rd</sup> week of April) and the second 10 to 14 days later with possibly a third application 10 to 14 days after the second application.

## References:

[Pine Diseases In Kansas: Tip Blight, Dothistroma Needle Blight and Pine Wilt](#), K-State Research and Extension, publication L-722.

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