**Understanding & Managing Diplodia Shoot Blight**

**Diplodia Shoot Blight**
Scots Pine, Ponderosa Pine, Mugo Pine, Spruce and Fir Trees

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**What is Diplodia Shoot Blight?**

Diplodia shoot blight, *Diplodia sapinea*, is a fungal disease that kills the tips of the branches of pines, and less frequently spruce and firs. In the blight stage, it can cause severe dieback and the fungus can grow into the stems and main trunk where it becomes a canker disease. It is considered a secondary infection in that weakened trees are more readily infected. Healthy trees are more resistant to infection.

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**Biology**

During moist weather in spring, spores ooze from last year’s fungus that is growing on dead tissue. Wind and rain carry the spores to young needles and buds, infecting current season needles and developing shoots from late April to mid-June. Within a year, the fungus produces more spores. Wet conditions during this period are needed for the disease to continue its infection progression.

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**Susceptible Trees**

Diplodia shoot blight most frequently affects Austrian pines but can also damage Scots pine, ponderosa pine, and Mugo pine. Spruce and fir can also be affected. The disease occurs most often in well established plantings; trees 25 to 30 years old can be especially vulnerable.

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**Signs and Symptoms**

The most common symptoms are stunting and browning of current-year shoots in the lower branches. Dieback of the current season’s growth year-after-year, eventually results in dead limbs and stunted tree growth. The disease is initially confined to the lower branches. With time however, it progresses upward until only the very upper branches are green, while the middle and lower portion of the tree are brown with brittle, dead branches. Stunted, straw-colored-to gray needles are most likely to host fungal spores, but cones can also be infected. Small black dots, the spores, are visible at the base of needles and on cones.
Treatment Strategy

Because diplodia is a disease of a weakened tree, the treatment is a two part process.

The first is to increase the health of the tree.
- Properly water during prolonged drought periods or on dry sites. Be sure not to get the leaves wet.
- Avoid or relieve soil compaction or grade changes to the soil.
- Place rings of mulch 3 inches deep around the trees to promote healthy root growth.
- To remove disease sources, remove dead or dying branches from infected trees when possible.
- Apply a multi nutrient fertilizer that has little or NO nitrogen. Nitrogen will increase the fungal growth. Do not use lawn fertilizers to fertilize your tree.
- Do not use weed killers or herbicides near the trees as these can injure and weaken the tree.
- The use of a growth hormone regulator, called Cambistat™, has been shown to stimulate root growth, increase defense chemicals, and increase drought tolerance which may help affected trees overcome diplodia.

The second step is to help the tree with its defense system by protecting new emerging growth with a fungicide called Cu Pro™. Fungicide protection is required from bud swell through full growth. Three sprays are needed, spaced 10 to 14 days apart, starting just before bud break. During rainy springs, a fourth application, 10 days after the third, will be necessary. Be sure to cover the lowest branches completely because new infections usually occur lower on the tree.

DIY Shopping List

Option 1:
Application Type – Foliar spray
DIY Product/Equipment Needed
- Cu Pro™
- Hand pump sprayer with wand
- Gloves/Safety glasses

Option 2:
Application Type – Soil drench, Soil injection
DIY Product/Equipment Needed
- Cambistat™
- Measuring or diameter tape
- Gloves
- Soil Drench: Bucket or watering can
- Soil Injection: HTI Soil Injection Kit