Sphaeropsis Shoot Blight (also called Diplodia) is a fungal disease that affects many pines. The disease is caused by the fungal pathogen *Sphaeropsis sapinea*. Hosts are primarily two and three-needled pines which include Austrian, Scotch, Mugo, Red, Ponderosa and Jeffery. White pine is virtually immune. Sphaeropsis may cause severe seedling blight in nurseries. Otherwise older trees are generally more susceptible, especially after trees reach cone bearing age. It causes tip blight, resinous cankers on mainstems and branches, death of cones, and sometimes death of the entire tree. The fungus normally infects new succulent shoots as they emerge in the spring. Rainy weather is particularly conducive to disease development. Shoots which have matured by mid to late summer are more resistant.

**Symptoms**

The most commonly observed symptoms are tip blight and death of lower branches. However, the first symptoms of the disease appear earlier when resin oozes from small lesions on infected needles and branches. Dying shoots turn yellowish green to straw colored and have patches of dry resin near the base. When the disease is severe clusters of shoots are blighted and branches are deformed. Closer examination of the dead and dying tips reveals that the tissue was killed before the needles reached full size. Fungal fruiting bodies (pycnidia) break through the surfaces of killed needles, cone scales, and the bark of twigs or branches beginning in late summer of the infection year and continuing into the next spring.
Biology
The fungus overwinters as pycnidia on cones, needles and branch cankers. From early spring to late autumn splashing rain disperses spores from the pycnidia where they are produced. Fungal spores (conidia) germinate and penetrate succulent stems through the epidermis and enter needles through stomata.

Control
Although many pine species are reported hosts, this disease is more severe on trees that are weakened by unfavorable environmental conditions such as drought stress. Water trees during periods of drought to alleviate stress and maintain tree vigor. Do not plant susceptible trees near infected trees. Whenever possible select resistant replacement trees. Removal of dead shoots will improve the appearance of diseased trees, but it will not prevent infection since much of the inoculum is produced on cones that remain attached to the tree. Prune and destroy infected cones, twigs and branches during dry weather in autumn. There are fungicides available for control of Sphaeropsis blight, though proper timing of applications is important to achieve optimum control. The first treatment should be just before bud break (bud swell) and repeated twice, at 10-day intervals. Shoots should be chemically covered until the current-year’s growth is half finished. Fungicides recommended for control of this disease include thiophanate-methyl (Cleary’s 3336), propiconazole (Banner), mancozeb (Protect T/O), chlorothalonil + thiophanate-methyl (Spectro 90WDG) or copper-based products. When making the applications be sure to get good coverage on the lower branches, they are most likely to become infected. Adequate chemical coverage on large trees is difficult and often requires specialized spray equipment. Contact the Michigan Nursery and Landscape Association (MNLA) at 1-800-879-6652 to find a landscape professional in your area that can assist you with fungicide applications and other disease management procedures.