

## **Ploioderma needle cast**

The fungus *Ploioderma lethale* causes Ploioderma needle cast on some of the two- and three-needle hard pines.



### **Host plants:**

*Ploioderma lethale* infects Austrian (*Pinus nigra*), Japanese black (*P. thunbergiana*), and pitch pines (*P. rigida*) in New England.

### **Description:**

The first symptoms of infection appear in winter with the development of yellow to brown spots and bands on infected one-year old needles. By late spring, the surrounding needle tissue up to the needle tip dies and turns tan to gray color, while frequently the base of infected needles remains green. At around the same time black lines and dashes that are *Ploioderma* fruiting structures emerge on dead parts of the infected needles. Infected needle tips or entire needles are typically cast by the end of the summer. Often the lower part of susceptible pine sustains the most extensive damage.



**Left: Severe browning develop in the spring of a pine infected the previous summer**



***Ploioderma* fruiting structure in late spring on pine needle**

Photos: (left) David J. Moorhead, University of Georgia, [www.forestryimages.org](http://www.forestryimages.org) (right) J. Stone, *Diseases of Woody Ornamentals and Trees*. APS Press.

### **Disease cycle:**

Fruiting structures on needles infected by *Ploioderma* needle cast begin to release spores during rainy weather in late spring and early summer. If the needles are wet long enough, the spores germinate and directly penetrate new needles. There is no visible evidence of infection until the next winter when chlorotic spots and bands appear on infected needles.

### **Management strategies:**

Promptly remove and dispose of severely infected branches and trees to reduce the amount of *Ploioderma* inoculum on the site. If *Ploioderma* needle cast is a recurring problem, grow trees resistant to the disease and better adapted to environmental conditions on the site. Space plants well and control tall weeds to improve air circulation and sunlight penetration. Protect high value trees with fungicide applications beginning when needles emerge and repeat at labeled intervals until needles are fully elongated or dry weather prevails.

*Daniel H. Gillman, Plant Pathologist*

*UMass Extension Landscape, Nursery & Urban Forestry Program*

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