



# Dothistroma Needle Blight of Pine

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## INTRODUCTION

Dothistroma needle blight disease afflicts some of the pine species commonly planted in Kentucky landscapes, resulting in needle browning and unattractive trees (FIGURE 1). Austrian pine (*Pinus nigra*) and Mugo pine (*P. mugo*) are most commonly affected. Dothistroma needle blight is infrequently observed on spruce (*Picea* spp.). A closely related fungal disease called brown spot needle blight occasionally affects Scots pine (*P. sylvestris*) or white pine (*P. strobus*), although this disease is less common in Kentucky.

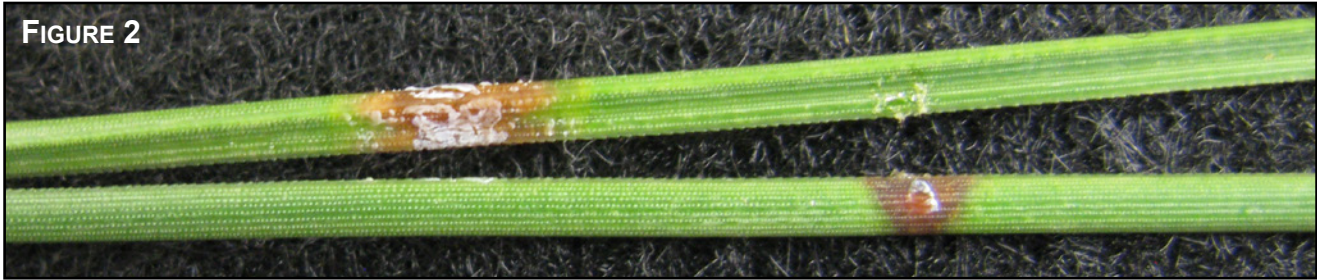
## SYMPTOMS

Needle blight symptoms begin as dark green spots on infected needles as soon as 1 month after infection. This earliest symptom is often overlooked. Later, distinctive brown or reddish spots are visible on needles, sometimes encircling needles to form bands of discolored tissue (FIGURE 2). These needle-banding symptoms are usually not noticeable until autumn or winter, or even early the following spring. Black pimple-like fungal fruiting bodies may be visible as needle tissue becomes necrotic (FIGURES 3A & 3B). Blighted needles can either remain on trees or may drop prematurely. Needle browning tends to develop on lower branches and progress upward (FIGURE 1). Symptoms on spruce are similar to those on pine (FIGURES 4A & 4B).



**FIGURE 1.** DOTHISTROMA NEEDLE CAST SYMPTOMS BEGIN ON LOWER BRANCHES AND PROGRESS UPWARD.





**FIGURE 2.** NEEDLE BANDING SYMPTOMS BECOME OBVIOUS SEVERAL MONTHS AFTER INFECTION.

**FIGURE 3A & B.** WHEN DARK FUNGAL FRUITING BODIES ARE MATURE, THEY BEGIN TO ERUPT THROUGH NEEDLE TISSUES. THESE STRUCTURES CONTAIN SPORES THAT INITIATE NEW INFECTIONS.



**FIGURES 4A & B.** BANDING FROM *DOTHISTROMA* NEEDLE BLIGHT ON SPRUCE IS SIMILAR TO BANDING ON PINE NEEDLES.

