



Red Band Needle Blight

If you have visited any Corsican pine plantations, or even specimen trees recently you might see that they are looking increasingly brown and sparse. This uncharacteristic appearance is the result of Red Band Needle Blight (RBNB) caused by a fungal pathogen which, until recently, was rarely seen in Great Britain. Its name is *Mycosphaerella pini*, but it is more commonly known as *Dothistroma septosporum*. There is also a second species, *D. pini*, not found in Britain, which is also responsible for RBNB. Currently this species is only found in the Ukraine and North America.

Where is it a problem?

D. septosporum has spread to many countries throughout the world, probably as a result of the movement of infected plants. It was first found on nursery stock in Britain in 1954 but until recently only appeared sporadically. Over the last decade, however, there have been increasing numbers of reports of RBNB across England, particularly in East Anglia where Corsican pine dominates plantations. More recently there have been sightings as far afield as Wales and the North of Scotland.

D. septosporum can affect many species of conifer, but in Great Britain the pathogen has primarily been confined to Corsican pine (*Pinus nigra* ssp. *laricio*) although seven other *Pinus* species have been reported to have the disease in woodland situations, including Lodgepole pine (*P. contorta* var. *latifolia*) and Scots pine (*P. sylvestris*). However, the latter appears to be more resistant. All ages of pine may be infected, and the combination of wet springs and higher than average rainfall may have increased the incidence of RBNB in recent years.

Symptoms

In the early stages needles develop green bands and tan spots; characteristic red/brown bands often develop later.

anna.brown@forestry.gsi.gov.uk or katherine.tubby@forestry.gsi.gov.uk Telephone: 01420 526246

Further Information

Brown, A., Rose, D.R., and Webber, J.F. (2003). Red Band Needle Blight of Pine. *Forestry Commission Information Note 049*. (new version available from early 2008)

Forestry Commission Research website:

www.forestresearch.co.uk/redbandneedleblight

Small fruiting bodies develop in late spring/summer on attached needles infected in the previous year. In Great Britain both mating types of the fungus are present although only asexual spores have been found. These are distributed in water droplets and have the potential to be widely distributed by wind and in clouds and mist.

RBNB is not always easy to identify as needles do not always exhibit the characteristic banding. The distal ends of needles may turn brown leaving the base green, or needles may be brown/red overall, a symptom which could easily be confused with infection by other needle pathogens. Trees are generally affected from the base of the crown up, and older needles succumb first. Severely affected branches can lose most or all of their needles resulting in very thin, patchy crowns. Severe infection can result in tree mortality.

Control

The disease has become so widespread in Britain, there is now a five year moratorium on the planting of Corsican pine on the Forestry Commission Estate. Although copper fungicides are effective in controlling RBNB in New Zealand, no chemicals are registered for use against this pathogen in Britain. Instead the focus is on the use of alternative species, and research is underway to ascertain the potential of increasing thinning to lessen the impact of the disease by increasing airflow in woodlands.

Red Band Needle Blight is a potentially serious disease and is listed in EC plant health legislation. If you see a tree which you think might be infected you should inform the authors of this TDA.

Anna Brown and Katherine Tubby, Forest Research, Alice Holt Lodge, Farnham, GU10 4LH.

Forestry Commission press release:

<http://www.forestry.gov.uk/forestry/infd-74jjfk>

Forestry Commission Q and A:

<http://www.forestry.gov.uk/NewsRele.nsf/web-allbysubject/5E8A8246143878B38025729500510FB6>

