

## Red band needle blight in Scottish tree nurseries

### Position Statement

#### Background

1. Red band needle blight (RBNB) is currently the most significant disease of coniferous trees in Great Britain and has been present since the 1950s. First recorded in Scotland in 2002, it has since caused extensive damage, including mortality, to some Corsican pine and Lodgepole pine stands (on the national forest estate). There has been an increasing rate of infection of Scots pine, but, as yet, this species appears to be generally more resistant to the disease, perhaps because it is growing within its natural range. Although primarily a disease of pines, five spruce species, European larch and Douglas fir can also host the disease. Control is currently focused on silvicultural measures to reduce inoculum loads, nursery controls, and the use of alternative, less susceptible species in future rotations. For further details see:

[www.forestry.gov.uk/forestry/infd-74jjfk](http://www.forestry.gov.uk/forestry/infd-74jjfk)

2. RBNB can be caused by two fungal pathogens: *Dothistroma septosporum* and *Dothistroma pini*. Currently, only *D. septosporum* has been found in Britain, and it is known to have two mating types. (It is possible that combination of these types is giving rise to increased virulence of the disease). The distribution and ratios of these mating types in Scotland is currently unknown.

3. The distribution of infected stands on the national forest estate in Scotland is shown in Annex 1. There is no similar, detailed information on the extent and severity of the disease in private woodlands.

4. RBNB is currently listed in the EU Plant Health Directive as a "quarantine pest" (under the now out-of-date name *Scirrhia pini*), with controls being restricted to pine plants for planting, the only recognised pathway for spread. Controls require that before pine plants can be released for planting without restriction, both the nursery and its immediate vicinity must have been found free of symptoms of the disease since the beginning of the last growing season. The 'immediate vicinity' has been defined taking into account data about known natural dispersal distances, and has been set for RBNB at 550m. In response to the discovery of infected trees in forest nurseries, the plant health legislation required all infected lots to be destroyed, and all other pine plants either destroyed or held over pending further inspection at the end of the next growing season.

#### Nursery infections

5. Following inspections by Forest Research staff, the presence of RBNB was confirmed at the Forestry Commission's Newton nursery in July 2010 and at two

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private nurseries, Christie Elite Nursery Ltd and Christies of Fochabers (Forestry nursery), during August 2010. Inspections earlier in the year had not detected any signs of the disease at these nurseries.

6. Infected and 'nearby' (within 550m) stock amounts to some 5 million pine plants at these nurseries. Other stock further than 550m away from the nearest known infection can be traded as normal.

### Immediate risks

7. The destruction of infected beds and the holding-over of all other pine stock within 550m of those beds would not only severely damage the financial position of the private nurseries affected, but it would also mean the cancellation or postponement of a significant programme of woodland creation over the coming planting season. This would have knock-on effects on small contracting businesses throughout Scotland. Given the wide distribution of RBNB in Scotland, the expectation is that the same situation would arise in the future, and these and other nurseries would therefore cease to sow Scots pine (and other pine species). No home-produced planting stock would be available for restocking within Scots pine forests or for the Scots pine component of native woodland planting schemes which currently form the mainstay of the annual planting programme.

### Long-term risks

8. The movement of infected plants and nearby stock would enable work programmes to go ahead and avoid these and other nurseries ceasing to trade. However, scientific advice points to the existence of two mating types and possibly several different genotypes within the fungus population in Scotland. Movement of infected and possibly infected (asymptomatic) stock therefore carries two main risks: first, the direct release of a new genotype into the Scottish population; and second, the risk of increasing the possibility of mating type re-combination to create a more-virulent genotype of the pathogen. Both factors could lead to an increased risk to Scots pine forests and also a greater chance of the pathogen affecting other conifer species. The consequences of this would be very significant for the forestry sector. However, these risks would be heightened significantly if planting stock were purchased from countries outside Great Britain, particularly where the second species of *Dothistroma*, *D. pini*, is present.

9. Work is in hand to determine the distribution of the two *D. septosporum* mating types in Scotland, but results are not likely to be available before December 2010. Work is also planned to try to identify genotypes in the Scottish population, but this will take a little longer. It might be that the two mating types are already equally well distributed in the fungal population in Scotland. However, if not, movement of infected and possibly infected plants might greatly increase the risk of re-combination as well as potentially releasing a new genotype into that population.

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### An agreed way forward for the planting season autumn 2010 to spring 2011

10. At a special meeting with sector representatives on 29 September 2010 an interim, compromise position was agreed for the coming planting season:
- pine plants in specific nursery beds with confirmed infection will be destroyed;
  - under licence, pine stocks within 550m of the known infected beds will be permitted to be used for planting in Scotland only, while accepting that it is not possible to confirm that all such stock is uninfected;
  - stock further than 550m away from the nearest known infection can be traded as normal; and
  - **woodland owners/managers will need to assess the risks of planting such stock based on their knowledge of the disease distribution in their locality.**

### Beyond spring 2011

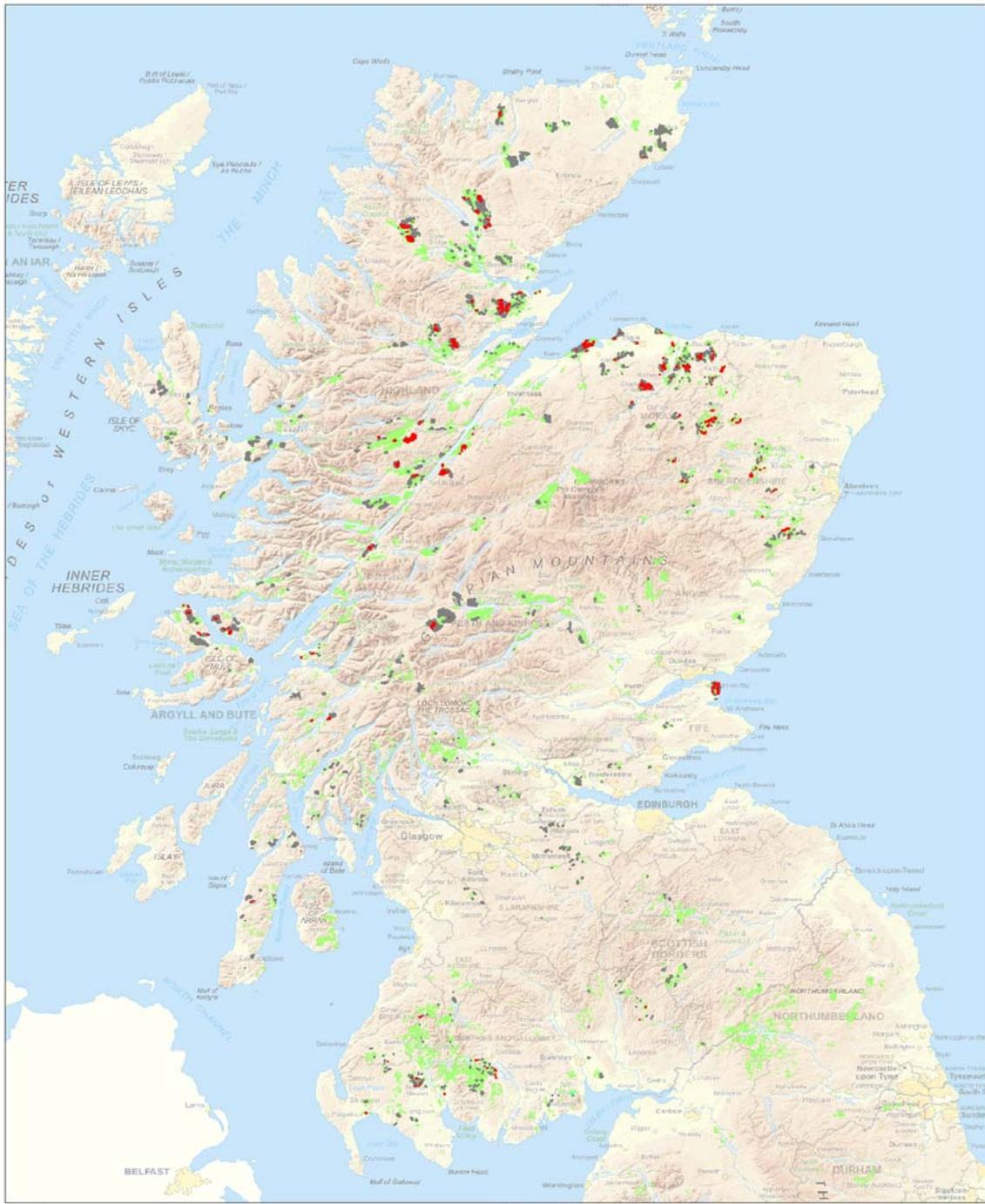
11. Further research will help determine the distribution and ratio of mating types in Scotland and, subject to available resources, the annual survey for disease occurrence will be extended to look at the distribution of RBNB in private sector woodlands, particularly in those areas where the disease has not yet been recorded. Further research is also required to determine appropriate management strategies for dealing with RBNB in the long term.

12. The Forestry Commission's Plant Health Service is investigating options to request the EU to either de-list RBNB completely, which would carry the risk of enabling unregulated imports from overseas, or to classify the disease as a Regulated, Non-Quarantine Pest, which would enable proportionate controls to be exercised within Great Britain while also maintaining import regulations.

### Further information

13. For further information or advice please contact:
- Disease science: Dr Anna Brown, Forest Research  
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  - Application of movement authorisations and Plant Health context :  
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Distribution of RBNB on the national forest estate (2010)



Forestry Commission Scotland  
Coimisean na Coilltearachd Alba

0 25 50 100 Km

Red Band Needle  
Blight Distribution

Legend

- Red Band Needle Blight (NFE)
- Surveyed Sub-compartments (NFE)
- NFE Sub-Compartments containing pine

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