

**Report on the Forestry Commission Woodland
Survey 2005 to Assess the Level of Incidence of *Phytophthora ramorum*
and *Phytophthora kernoviae* in Cornwall**

**Forestry Commission
Plant Health**

Summary

In August 2005, the Forestry Commission undertook the survey of 14 woodlands in Cornwall. These woodlands, in admixture with rhododendron and/or *Vaccinium*, had not previously been surveyed by the Forestry Commission or the Plant Health & Seed Inspectorate (PHSI) of Defra. Fourteen 10km squares were looked at, with one woodland in each square surveyed. A further four 10km squares inspected contained no woodland. No new positives were found.

Background

Phytophthora ramorum is a fungus-like pathogen, which has been identified as the causal agent for the condition known in the USA as Sudden Oak Death. The first evidence of it in Britain was found during April 2002 on a viburnum but since then it has been found mainly on rhododendrons in nurseries and garden centres. In November 2003 the first evidence of an established tree having the disease was confirmed in Sussex. Further infections were subsequently confirmed on trees in historic gardens in Cornwall. Rhododendrons were present on all of these sites.

Between **December 2003 and April 2004** the first major Forestry Commission *Phytophthora ramorum* survey was carried out focusing on locations where rhododendron was found growing in admixture with trees. Britain was divided into high risk and low risk areas based on climatic data. A total of 1348 sites were identified for the survey of which 1217 were high risk sites. In England, 395 sites were surveyed, in Wales, 310, and in Scotland 512. This was complemented by surveys on a further 131 low risk sites in England and Scotland.

A total of 335 samples showing symptoms of the disease were collected. Samples were sent either to the Central Science Laboratory (CSL) in York or the Scottish Agricultural Science Agency (SASA) in Edinburgh. All samples were tested and found to be NEGATIVE.

Significant areas of infection were identified in Cornwall and it was decided that the survey programme would continue in England and Wales during **Summer and Autumn 2004** with 109 plots surveyed in 94 10km grid squares. Samples were taken from 73 locations and none proved positive. During August 19 water bait samples were taken and 3 of these proved positive for *P. ramorum*.

It was agreed that we would not continue with a formal programme of surveys in Scotland, where Pest Risk Analysis indicated a low level of risk, although ad-hoc sampling would be carried out as part of surveyors' normal duties.

During the latter part of 2004, a second and previously unknown *Phytophthora*, now formally named *P. kernoviae*, was discovered in Cornwall, affecting rhododendron and some trees. A Management Zone was set up to contain the disease and this is defined in the Plant Health (*Phytophthora kernovii* Management Zone) (England) Order 2004. A smaller outbreak was

later discovered in South Wales. During 2005 further outbreaks of both *P ramorum* and *P. kernoviae* were discovered in Cornwall following intensive surveys by PHSI. These surveys continued throughout 2005. The Forestry Commission supplemented the PHSI surveys by undertaking further surveys in Cornwall of woodlands in admixture with rhododendrons and/or *Vaccinium* which had not previously been surveyed.

This survey was carried in **August 2005**.

Objective of the Survey

The main outbreak of both *P ramorum* and *P. kernoviae* has been in West Cornwall. PHSI had put in place an extensive programme of new surveys of previously unsurveyed woods, mainly in the west of the county, which was to continue throughout 2005 and was supported by further FC surveys.. This combined operation not only extended the woodland area surveyed but also helped both organisations to determine whether either pathogen is more widespread in Cornwall than was originally envisaged.

Sampling Protocol & Timetable

For this survey, TSU Exeter Fieldstation staff met with PHSI staff in Cornwall to identify which woods TSU had surveyed in 2004, which woods PHSI had already surveyed and which woods PHSI were going to survey in 2005. Once these woodlands had been identified and excluded from the equation, each 10km.grid square in Cornwall was checked in turn to ascertain if there were woodlands present, which had not previously been surveyed. Once the squares to be surveyed were identified, the protocol produced by Dr Steve Lee in December 2003 and subsequently amended by Dave Tracy in 2005 was implemented. In this protocol the number of woodlands to be surveyed in each 10km square is dependant on the gross area of woodlands in each square. Indications were that each square contained <2500ha.of woodland which meant that the requirements of the protocol determined that one woodland per square would be surveyed. Only woodlands which were in admixture with rhododendron and/or *Vaccinium spp.* were surveyed. Full details of the survey procedure is included in **Survey Plan 03/05-06** produced by Dave Tracy. No suspect bushes were found therefore no samples were taken..

Sample Data Summary

No samples taken therefore no data

Conclusion

This survey has ensured that every grid square in Cornwall, where there are woodlands which are in admixture with rhododendron and or/ *Vaccinium*, has been covered. That the survey has thrown up no new positives for either pathogen is encouraging but the results of this survey may have to be weighed against the results of other woodland surveys that are being carried

out by PHSI in Cornwall and where positives continue to be found. While PHSI's surveys have largely been in West Cornwall, and FC's recent survey concentrated mainly on East Cornwall, it would be easy to conclude that the pathogens are proliferating more in the west side of the county than the east. Such a presumption should not be accepted until further survey work has been carried out in East Cornwall.

Next Steps

The 10 km. squares in Cornwall contain anything from 2.5 - 2500ha of woodland within them, with many of the squares likely to contain numerous small woods which may be unsurveyed. The FC and PHSI will meet in early 2006 to discuss the year's survey programme.

Acknowledgement

The Forestry Commission wishes to acknowledge the full co-operation and support given to its surveyors by woodland owners or their managers who were approached for permission to survey their land.

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