

**Report on the Forestry Commission Intensive Tree Surveys 2004 - 2007 to  
Assess the Incidence Of  
*Phytophthora ramorum* and *Phytophthora kernoviae*  
in Woodland Trees in Cornwall**

Forestry Commission  
Plant Health Service  
Edinburgh

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## Summary

Between 2004 and 2007, woodlands in Cornwall, which contained *P.kernoviae* infected *Rhododendron ponticum*, were inspected to ascertain if the diseases were present on the trees. Over the four-year period a total of 325 trees were found to have symptoms of the disease.

## Background

*P. 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 came in April 2002 with the discovery of an infected viburnum in a plant retail outlet. Since then it has been found mainly on rhododendrons in nurseries and garden centres. In November 2003 the first evidence of an established tree infected with *P. ramorum* was confirmed in Sussex. Soon after further infections were subsequently confirmed on several trees in historic gardens in Cornwall.

In 2005, as a result of intensive surveys by Defra's Plant Health & Seeds Inspectorate (PHSI), further outbreaks of *P. ramorum* were found in Cornwall. A second, and previously unknown *Phytophthora*, now formally named *P. kernoviae*, was also discovered in woodlands in Cornwall as well as in South Wales and these outbreaks are currently subject to eradictory measures. It has also been recorded in a nursery in Cheshire (since eradicated) and, more recently, on a single 150-year old *Rhododendron ponticum* in a historic garden in Cumbria. The infected rhododendron has now been destroyed.

## Objective of the Surveys

Following the initial discovery of *P. kernoviae* in Cornwall in 2003, the Forestry Commission undertook a survey of woodlands, which were known to have *P. kernoviae* infected rhododendrons to ascertain whether any trees were showing symptoms of the disease. Over the next three years further surveys of the woods and woodland gardens previously surveyed were carried out, as well as at new outbreak sites.

## Sampling Protocol & Timetable

There was no specific sampling protocol used in these surveys. The decision to inspect was made either on the advice of Tree Health Division or came as a request from the Polwhele *Phytophthora* team. Timing was also dependent on when the Technical Services Unit at Exeter, who carried out the surveys, were free to undertake the work.

## Survey Data Summary

	2004	2005	2006	2007
<b>No of woods inspected*</b>	10	12	4	7
<b>No of symptomatic trees</b>	126	111	37	51

\*a number of the woods were inspected more than once during the 4 year period

The information gathered from these surveys (species, numbers and location of suspect trees) was passed to Tree Health Division pathologists who undertook an examination of each suspect tree. If required, trees were sampled, and the absence or presence of the diseases confirmed by laboratory analysis of the samples

## **Conclusion**

Since work began looking at trees with bleeding cankers in 2003, Tree Health Division have examined around 500 trees with bleeding cankers (439 of these in Cornwall) with a further 250 trees checked out for possible Pk/Pr foliar infections. Out of this total, 185 have been found to be positive for either *P. ramorum* or *P. kernoviae*. By October 2007 22 trees were found to have bleeding lesions and 69 trees have foliar infections as a result of *P. ramorum* while 22 trees have bleeding lesions and 44 trees have foliar infections as a result of *P. kernoviae*. Infected rhododendrons were present on all of these sites, usually in close proximity to the infected trees.

## **Next Steps**

A policy and science review on *P. ramorum* and *P. kernoviae* is currently being undertaken, the outcome of which will inform decisions on future disease management and research initiatives. This will inevitably impact on future survey programmes.

## **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 the trees on their land.

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