



**FACTORS AFFECTING THE MANAGEMENT OF *PHYTOPHTHORA KERNOVIAE*
AND *P. RAMORUM* IN SOUTH WEST ENGLAND**

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Phytophthora ramorum and *P. kernoviae* are considered to be two of several invasive tree Phytophthoras that have recently arrived in the UK. Both have established to some extent, primarily in the south west of England, and are found in both planted woodland-gardens and woodlands where rhododendrons (mainly *Rhododendron ponticum*) dominate. Foliage of rhododendron is generally highly susceptible to infection by both these aerial Phytophthoras and supports abundant sporulation. There is little doubt that this host has played a key part in the spread of both these pathogens in the natural environment and subsequent infection of trees. While *P. ramorum* has been found primarily in woodland-gardens that are a tourist attraction in Cornwall, *P. kernoviae* has been found more often in mixed woodlands with rhododendron as an understorey component. A key part of efforts to eradicate and contain both pathogens therefore centers on the removal of infected foliar hosts, particularly rhododendron because it appears to be the primary inoculum source on most outbreak sites.

Much eradication and containment effort has focussed on *P. kernoviae* because it has a very confined distribution in the UK and is almost entirely absent from nurseries. However, the process of rhododendron removal on infested woodland sites can be very costly. It has been estimated that full-scale removal from infested woodland and moorland sites, just in Cornwall alone, could cost more than £8 million. Therefore high priority sites for clearance are selected on the basis of several criteria including: public access, plant movement (some woodland gardens have associated plant retail areas), numbers of infected rhododendron and the number of infected trees. Studies at both *P. ramorum* and *P. kernoviae* infested sites show that both pathogens may persist for many months in naturally infected foliage in the litter layer in woodlands. These results suggest that removal of infected rhododendron is just the first stage in any attempt to eradicate these pathogens, as they have the potential to persist for extended periods and infect any re-growth of rhododendron that may occur.