

## NEW DISEASE REPORT

**First report of fruit rot caused by *Phytophthora syringae* on *Pyracantha* in the UK**

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*Pyracantha* spp. (firethorn) are grown mainly for their display of red, orange or yellow fruit in the autumn and winter and is also used as a hedge plant. In 2001 and 2002, two samples of berries of *Pyracantha* (both orange berry varieties) from Hampshire (RHS/10715/01) and from North Yorkshire (RHS/13308/02), showing signs of rotting, were received at the advisory service of the Royal Horticultural Society. The symptoms observed were brown/black spots that enlarged, with the whole berry eventually turning black and shrivelled. Whole clusters of berries were affected but the symptoms were only observed on berries produced on the lower branches of the *Pyracantha* shrubs.

A *Phytophthora* species was isolated following the baiting of the affected berries in apple fruit and plating on P<sub>10</sub>VP selective medium (Erwin & Ribeiro, 1996). Sporangia were produced and zoospores released in pond water, following floating of the apple baits. *Phytophthora syringae* was identified using morphological characteristics and confirmed by DNA sequencing. Sporangia formed sympodially, were semipapillate, ovoid, noncaducous with average dimensions of 41 × 25 µm. Hyphal swellings were produced abundantly in chains. The fungus was homothallic and the antheridia, where apparent, were paragynous. Oogonia (average diameter 28 µm), with plerotic oospores, were produced readily on carrot agar (CA) medium (Ribeiro, 1978). On 2-week-old CA plates, the antheridium was obscured by a knot of hyphae. The identification of the isolate RHS/10715/01 was confirmed by direct sequencing of the ITS region using primers ITS 6 and ITS

4, as described by Cooke *et al.* (2000). The nucleotide sequence obtained (accession number AY611644) was almost identical (with only two base substitutions) to *Phytophthora syringae* strains IMI296829 (AF266803), CBS132-23 (AF380146) and PDR115773A (AY423302).

Koch's postulates were fulfilled by floating berries from *P. coccinea* × *P. rogersiana* (an orange-fruited hybrid) in a suspension of zoospores (2–3 × 10<sup>6</sup> spores mL<sup>-1</sup>) at room temperature. The berries were wounded before infection, by producing a slit with a scalpel into the fruits. As a control, wounded berries were also floated in filtered pond water. Black spots started appearing on the fruits at 10 days postinfection and the fungus was re-isolated from the infected tissues by baiting with apples. A wound was necessary for successful infection. The control berries did not develop any symptoms.

*Phytophthora syringae* has a fairly wide host range and is known to cause fruit rot on *Citrus*, *Pyrus* and *Malus* (Erwin & Ribeiro, 1996). This is, however, the first report of this disease on *Pyracantha* in the UK and also worldwide.

**References**

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- Erwin DC, Ribeiro OK, 1996. *Phytophthora Diseases Worldwide*. St Paul, MN, USA: APS Press.
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