

Loss of Flowering Cherries through Fungal Attack in 2012 and its aftermath

Those of you who keep an eye on our flowering cherries may have noticed that some of them were looking very sick towards the autumn of 2012. The combination of a very dry winter and early spring followed by one of the wettest summers in recent years made 2012 a very stressful year for young trees particularly. Most of the cherries flowered well and came into leaf as normal but in midsummer some of them began to show signs of the leaves going brown and shrivelling up, so much so that some were thought to have died. It is well known that some flowering cherry cultivars are particularly susceptible to a fungal disease commonly known as **blossom rot** which enters into the dying flowers and causes leaf and twig die-back of varying degrees of severity. This is not usually fatal to established trees but it may have been the very wet summer that made that year's affliction particularly severe. A noticeable consequence was that in Winter 2012/13, the flowering of the early bloomers, always sparse, was very adversely affected.

Blossom rot is due to a genus of fungus called *Monilinia*. There are four species (*M. fructigena*, *M. fructicola*, *M. laxa*, and *M. polystroma*) that are pathogens on the Rosaceae – the family to which the genus *Prunus* belongs. Which fungal species is responsible for what is subject to confusion, but *M. laxa* is usually considered responsible in Europe while in the US the main fungal species is *M. fructicola*. *Monilinia* (Brown rot) causes blossom blight, twig blight, twig canker, and fruit rot. The fungus produces spores particularly during wet seasons resulting in extensive blossom infection, but can also infect green fruit, twigs, and leaves.

Several flowering cherry cultivars are known to be particularly susceptible to *Monilinia* attack. Three of these are winter flowered cherries – *P. pendula* 'Autumnalis', *P. pendula* 'Autumnalis Rosea', and *P. incisa* 'Praecox'. Others are *P.* 'Okame', *P. cerasus* 'Rhexii'. All had been significantly affected at Keele, as was *P.* 'Kiku-shidare-zakura'. The latter is a small weeping double-flowered mauve cherry that is very widely grown in gardens in the UK. However, it is thought to be a significant carrier of *Monilinia*, often responsible for infecting susceptible neighbouring cherries. In consequence a decision was made to remove this tree from the collection, which was done in early Spring 2013. It may be replaced at some future time if a suitable site remote from other cherries can be found. Most of the other affected cherries were pruned and trimmed to varying degrees to remove all infected material. The opportunity was also taken to remove two other cultivars that were not performing or were suffering severely from canker attack. These were *P.* 'Shosar' and *P. nipponica* v. *kurilensis* 'Brillant'. These will be replaced.

The winter we have just had has given us a good opportunity to assess the consequences. With the exception of *P. cerasus* 'Rhexii', which has not yet been treated, all the trees have responded well, have grown away strongly, and have flowered better through the winter than we have seen before. They will require monitoring over this year to see if the problem returns. If you see any symptoms recurring, please inform Dave Emley or Peter Thomas.