

Armillaria pilot study: results



by Liz Beal

PLANT HEALTH

THE FIRST PILOT EXPERIMENT to be undertaken in the new Science Field Research Facility (FRF) has now been completed.

The study examined the susceptibility of different hosts to *Armillaria* (honey fungus). The aim was to find a susceptible plant which can be used as a model plant for future experiments. Honey fungus is a slow-growing fungus in culture and it is difficult to infect plants artificially. The hosts examined were birch, cherry, privet, rose, rowan and strawberry. Hazel sticks pre-inoculated with honey fungus were inserted into the soil adjacent to the root collar of the plants.

The pilot experiment was destructively sampled after 8 months. Several different methods were used to assess plants for honey fungus infection, including growth rate (height), percentage dieback and browning, percentage infection of root collar and main roots, and mortality (see table). Strawberry was rated more susceptible than privet, despite lower levels of root collar and root infection, as its mortality rate was higher. Death of strawberry plants was rapid when compared to the other host plants, probably since it is herbaceous, rather than woody, and therefore more sensitive to *Armillaria* infection. In addition, strawberry is easy to grow and manage, and relatively small; this makes it an ideal model plant for use in future *Armillaria* experiments. ■

Finding a suitable host

1 Honey fungus is the common name for several species of *Armillaria* that attack the roots of woody and perennial plants.

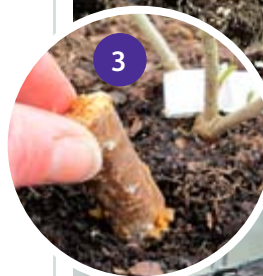
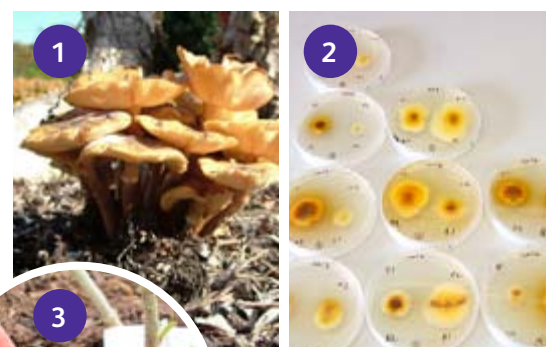
2 The aim was to find a suitable host plant for future research into the fungus.

3 Infected hazel sticks were placed in the soil near the root collar of specimens of birch, cherry, privet, rose, rowan and strawberry.

4 Plants were monitored in the controlled-environment Field Research Facility.

5 After 8 months, all plant material was destroyed and assessed for height, degree of infection (inset), and mortality.

Results. Strawberry was most susceptible to the fungus and was easy to grow and manage, which makes it an ideal host plant for future experiments.



Host	Mortality	Root collar	Main roots
Strawberry	7	59	8
Privet	5	79	32
Rose	1	58	12
Cherry	1	31	19
Birch	0	29	2
Rowan	0	11	3

Col 2 gives total deaths per 9-specimen group. Cols 3 & 4 give the averaged % infection after 8 months' exposure to honey fungus inoculation.

For more information:

▶ lizbeal@rhs.org.uk

PHOTOS ALL LIZ BEAL EXCEPT 1. BEATRICE HENRICOT 2. JENNY DENTON.