Horticultural Development Company

New Project

SF 115

The identification of over-wintering predatory mites in raspberry and strawberry, and investigation of the potential for on-farm production

Project Number:	SF 115
Title:	The identification of over-wintering predatory mites in raspberry and strawberry, and investigation of the potential for on-farm production
Start and end dates:	Start: 01/02/10 End: 31/01/11
Project Leader:	Robert Irving, ADAS
Project Co-ordinator:	Stephen McGuffie, New Farm Produce Ltd, Litchfield, Staffs
Location:	Collection of samples will be from farms spread geographically in England. ADAS Rosemaund for identification of mites.

Background and project objectives: Unheated protected strawberries and raspberries are commonly damaged by two-spotted spider mite (TSSM). This is especially so for summer-long everbearer strawberry and primocane raspberry crops. Effectiveness of pesticide sprays is being impaired by increasing restrictions on their use, dense crop canopies, long harvest intervals and concerns about pest resistance. Pesticide availability may also be more limited in future, and growers are being pressured to reduce use of pesticides as residue analysis becomes more sophisticated. Most commercially available predators (such as *Phytoseilus persimilis*) are not tolerant of winter conditions or many pesticides. The cost of introducing biocontrols is significant, with larger farms presently spending over £5000 per annum on bio-control products for TSSM. Even so, sometimes these investments fail due to low temperatures or damaging pesticide use. On-farm observations have however frequently noted the presence of over-wintering predatory mites in spring and early summer. The levels found vary between farms and fields. These predators have been seen to lay eggs and feed in emerging spider mite aggregations, but may also be found in pest-free crops, possibly feeding on alternative prey such as springtails.

This project seeks to assess the potential contribution that such mites could make to control of TSSM in these fruit crops by identifying the predatory mites and the conditions in which they are found in the UK more precisely. An accompanying literature search will identify any existing knowledge of practices which would enhance their numbers, either by cultural strategies or direct rearing on-farm of 'hardy' predatory mites. The aims of the project are:

- To identify and characterise the mite species observed to over-winter outdoors on strawberry and cane fruit crops across England.
- Through the collection of relevant data at each site, to determine whether there are associations between grower practices and mite incidence.
- To formulate guidance for growers which would facilitate better conditions for farm establishment of 'native' predatory mites, including possible "on-farm" multiplication, as adjuncts to buying in predators.

Further information

Email the HDC office (hdc@hdc.org.uk), quoting your HDC number, alternatively contact the HDC at the address below.

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