

Aphids



12. Potato aphid feeding on strawberry

A range of aphids can act as pests of strawberry. Most notable are the strawberry aphid (*Chaetosiphon fragaefolii*), shallot aphid (*Myzus ascalonicus*), potato aphid (*Macrosiphum euphorbiae* – Figure 12) and the melon and cotton aphid (*Aphis gossypii*). The shallot aphid feeds on the foliage of the strawberry plant in the winter and early spring, and gives rise to stunted and twisted foliage. Because of the severe damage this pest causes, infestations cannot be tolerated. Strawberry, potato and melon and cotton aphids feed and create sticky honeydew on the leaves and fruits, which can lead to contamination and unsaleable fruit. Aphids also act as virus vectors. The strawberry aphid can transmit strawberry mottle virus, strawberry crinkle virus, strawberry mild yellow edge virus and strawberry vein-banding virus. The melon and cotton aphid can also transmit strawberry mottle virus.

Four strategies were investigated in this project to find novel control measures for aphids. The use of flowering plants to attract natural enemies of aphids, the identification of semiochemicals to attract aphid predators and parasitoids and the use of biocontrol agents were all assessed. In addition, the use of late autumn (post-harvest) sprays using selective insecticides to reduce over-wintering populations was also examined.

Work to assess the effectiveness of flowering plants to attract aphid predators and parasitoids was largely unsuccessful and highlighted practical difficulties in this approach. Similarly, work to evaluate the effectiveness of plant derived semiochemicals to attract aphid predators and parasitoids into strawberry crops showed no scope for exploitation.

In other trials to assess the effect of selective insecticides to control aphids after harvest, the use of Calypso (thiacloprid) between late September and early November effectively reduced numbers of aphids (including strawberry and potato aphid) present on strawberry leaves the following spring.

Research to assess a mix of six parasitoids (Figure 13) which has been designed to contain the species that attack all the main aphid pests of strawberry, showed a significant reduction of strawberry aphid and potato aphid.

The latter two methods were therefore used in an IPDM programme later in the life of the project.



13. Release of six parasitoids to a strawberry crop