

APHID-EATING FLIES ARE EFFECTIVE POLLINATORS OF STRAWBERRY

by Dylan Hodgkiss, Mark J.F. Brown, Michelle T. Fountain

There is growing concern about declines in the numbers of wild insects. These losses are particularly troubling for fruit growers who rely on insects to visit and fertilise, or pollinate, their crops. At the same time, aphids are a serious pest of strawberry, causing significant losses in fruit production. Many flies in the hoverfly family not only visit strawberry flowers as adults, but they also offer the added bonus of eating aphids during their larval stage. However, whether aphid-eating hoverflies are able to effectively pollinate strawberry flowers remains largely unknown.

Using strawberry plants placed in cages, we tested how effective these aphid-eating hoverflies are at pollinating strawberry flowers. We also tested whether different species of hoverfly vary in their effectiveness as pollinators. We discovered that cages with flowers that had been visited by hoverflies produced over 70% more strawberries than cages without insects. In addition, twice as many of those berries were of supermarket quality. When we compared two hoverfly species, we found that one species was nearly twice as effective at producing marketable fruit as the other.



A female aphid-eating hoverfly visiting a strawberry flower for pollen and nectar © 2017 Dylan Hodgkiss

Thus, we provide new evidence that aphid-eating hoverflies are effective strawberry pollinators, though individual species may differ in their pollination efficiency. Moreover, our results indicate that these helpful flies may be capable of providing fruit growers with the benefits of both pollination and aphid pest control.