

Section I
Mites and Sap-Sucking Insects

ABUNDANCE OF HOP APHIDS IN HARVESTED HOP YARDS,
OVERWINTERING HOSTS, AND SEASONAL FLIGHT
ACTIVITY OF FALL MIGRANTS

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The mean number of hop aphids per leaf on the bases of hop plants that remained in fields after harvest were 4.55 in 1984, 1.73 in 1987, and 5.78 in 1989. Intact plants remaining in harvested yards averaged 32.80 aphids per leaf in 1987 and 127.09 in 1989.

In suction trap catches from 1984 to 1990, the average date that the first hop aphids were trapped was 1 September for females and 1 October for males. Collections of winged hop aphids from hop leaves in the falls of 1989 and 1990 confirmed that females fly before males. In most years, the peak of the female flight and all of the male flight occurred after the end of harvest.

Many more hop aphids were found on ornamental *Prunus* plants than on fruit trees in commercial orchards. In 1990, ornamental trees (72 sampled in 42 locations) had an average of 44.03 aphids per shoot. Prune trees (149 sampled in 14 orchards) had 5.4 aphids per shoot and most of the aphids were in one orchard that averaged 80.96 aphids per shoot. No other orchard averaged more than 0.5 aphids per shoot. In 1991, ornamental trees (57 sampled in 37 locations) averaged 105.11 aphids per shoot; no hop aphids were found in prune orchards (40 trees sampled in four orchards).

We hypothesize that by controlling aphids on hops following harvest, the number of female fall migrants will be reduced and the number of males reduced even more, leaving many females unmated. These reductions should decrease the number of eggs laid on *Prunus* spp., and if the reductions are large enough, the number of aphids on hops the following year should also be reduced. Controlling aphids on the overwintering hosts with a delayed-dormant spray should reduce the number of aphids flying to hops in the summer. We plan to apply a delay-dormant spray to ornamental *Prunus* in a small hop growing area in the late winter of 1992.