Walnut Insect Survey - L. C. Brown, C. S. Davis

Weekly leaf samples consisting of 100 leaves each were obtained from three cultivated and three non-cultivated walnut orchards. The purpose of this survey during the summer months was to determine the kinds of insects present in the walnut orchards and the population levels.

Samples were collected and sent to Berkeley for insect identification and numbers. Insects accounted for in the survey included the following: thrips, scale crawlers, walnut aphid, predator mites and two-spot mite.

At the beginning of the season leaf samples were collected from the ground. Starting on July 9, additional leaf samples were collected which could not be reached from the ground. These samples were obtained by cutting leaves off 10-12 feet from the ground.

The two insects which were of primary concern were the walnut aphid, Chromaphis juglandicola, and the two spot mite, Tetranychus urticae. There appeared to be a trend in populations of the two spot mite toward higher numbers in the non-cultivated orchards. There was considerable variation in numbers of mites between samples obtained from the top and the bottom of the trees.

The walnut aphid populations appeared to be consistently higher throughout most of the summer in the non-cultivated orchards as compared with the cultivated orchards. There was considerable variation in numbers of aphids from samples obtained from the top and from the bottom of the trees. The numbers of aphids were normally higher in the tops as compared with the numbers of aphids on leaves which could be reached from ground level.

Frosted scale crawlers were present in all six orchards. The counts were reduced to zero in the orchards after July 16, probably due to their vulnerability to high summer temperatures.

Thrips populations were consistently higher in cultivated orchards than in non-cultivated walnut orchards. Their numbers decreased after June. There was some build up of thrip again in July and August in the cultivated orchards.

Predaceous mites were low in all orchards from May through July.