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Control of Peach Twig Borer Under Continuing Study

Stanley F. Bailey

In the past year or two many new chemicals have entered the field of insecticides but the majority of them are not useful in the control of the peach twig borer.

Laboratory experiments show that the larvae of the peach twig borer will be paralyzed by crawling across bark and leaves sprayed with DDT, and therefore, caterpillars do not need to feed on poison-sprayed leaves to be killed.

Some growers have used the wettable DDT spray powders—usually 50 per cent strength—at the rate of one pound of actual DDT per 100 gallons of water, as well as a five per cent dust, to control this insect on canning peaches and report excellent results.

In experiments in the orchard on almonds, DDT was compared with the basic lead arsenate spray, and found to be slightly superior in controlling the peach twig borer.

DDT Residue

Preliminary tests with canning peaches have shown that the amount of DDT residue on the fruit at picking time has been far below seven parts of DDT to one million parts of the fruit, which is the amount permissible on apples and pears.

Small scale tests in which the fruit was lye peeled, showed that all the DDT was removed by that process. It is still unknown whether the DDT residue in the lye tank will accumulate sufficiently under average canning conditions to contaminate the commercial pack without frequent changings.

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Extra Irrigation Is Extra Expense In Prune Production

A. H. Hendrickson and
F. J. Veihmeyer

There exists a general idea, that if maintaining moisture in an orchard readily available to the trees at all times is good, the addition of more water to keep the soil moisture relatively high is better.

Experiments with prune trees over a 13-year period do not support that idea.

Experimental irrigation plots of eight French prune trees were replicated three times for two of the test treatments and four times for the third. All plots in each treatment received the same irrigation.

Test Treatments

Whenever the plots were irrigated, the soil was moistened to a depth of six feet, so the trees either did or did not have moisture to the depth occupied by most of the roots. Light irrigations, wetting the soil to a shallow depth were not used.

Treatment A was kept at a relatively high moisture content. Treatment B was allowed to exhaust the moisture to the permanent wilting percentage before replenishing one supply. Treatment C was irrigated during the early part of the season only, the average date of the final irrigation being July 20.

The irrigations were under the direction of the same man throughout the 13 years. The average application was very close to 7.5 acre inches.

The soil moisture records for these treatments indicate that in general, the A treatments had readily available

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DDT Dust With Sulfur Is Treatment Recommended For Summer Control Of Greenhouse Thrips On Avocados

Walter Ebeling

During the past few years the greenhouse thrips, *Heliethrips haemorrhoidalis*, has become the most serious of the avocado pests, especially in the areas of greatest concentration of the avocado industry, in San Diego County.

The greenhouse thrips is 1/24 of an inch in length, dark brown to black, and very sluggish in its movements. The adults seldom, if ever fly.

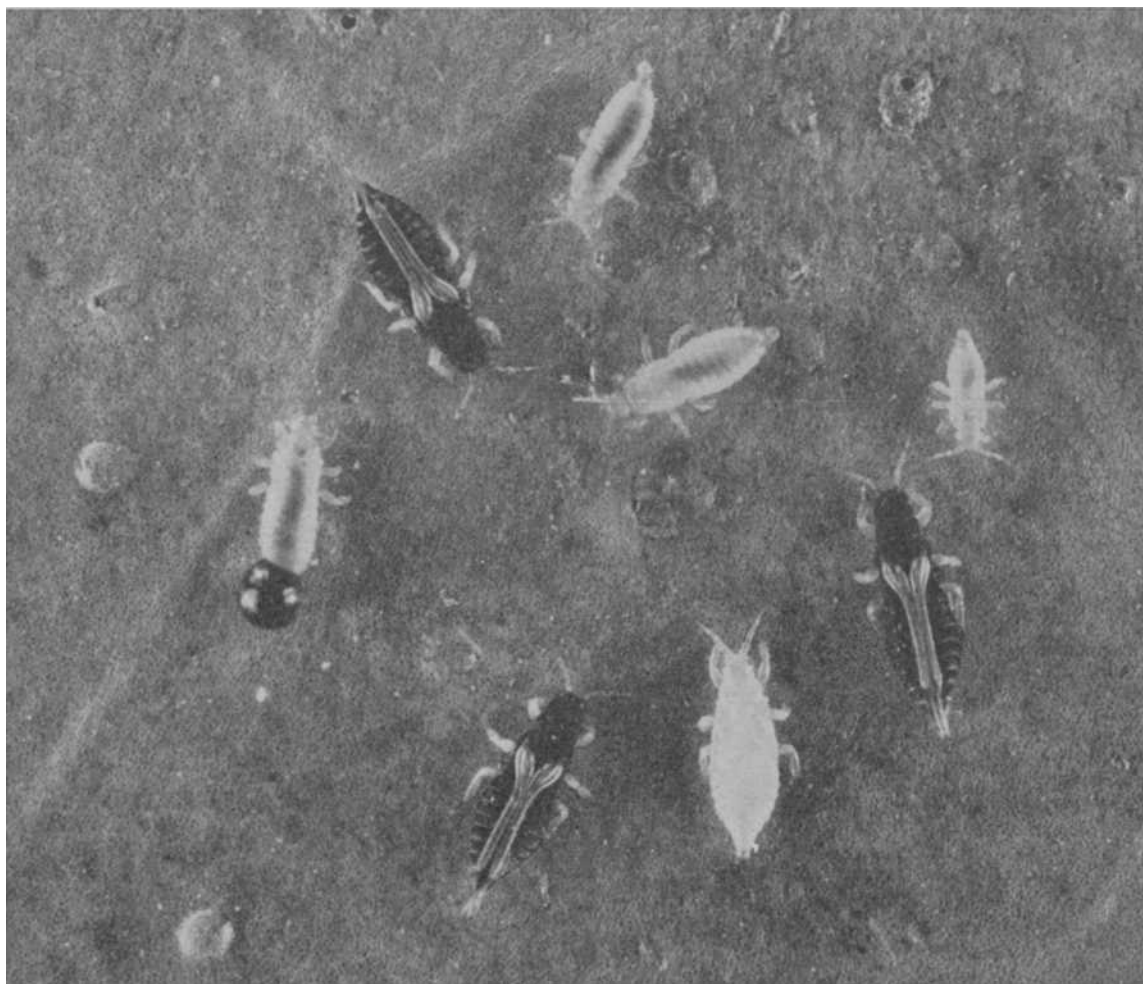
As a result of successful preliminary trials with DDT sprays and dusts, made by the University of California College of Agriculture in cooperation with the San Diego County Agricultural Commissioner's Office, many growers used a DDT sulfur dust to control greenhouse thrips during the past season.

The dust consisted of 5 per cent DDT and from 50 to 85 per cent sul-

stances that the second application is not necessary. The present year will be the "on year," however, in the alternate bearing cycle, and no chances should be taken with greenhouse thrips.

With good control this year, it is possible that next year—the "off year"—no treatment may be necessary.

DDT may also be applied as a



Larvae, prepupa, and adults of the greenhouse thrips on a carissa leaf. Note also egg mounds, some with exit hole made by emerging egg parasites. (Photograph is greatly enlarged)

Often all stages of this insect—the two larval stages, the pupal stages, and the adult—may be found together on an avocado leaf or fruit, frequently tending to congregate in small colonies. With the aid of a hand magnifying lens, small, corky pimple-like protuberances may be seen on the leaf or fruit, indicating where the tiny, kidney-shaped eggs have been inserted beneath the cuticle.

Injury Caused by Greenhouse Thrips

The injury consists of whitish discoloration of the infested areas of the leaves and fruit, followed by a brownish appearance and leathery consistency of the epidermis. In case of the fruits, this may be accompanied by cracking. Premature dropping of infested leaves and fruit may also occur. The fruit is degraded or culled, depending on the severity of the injury.

Control

Within recent years, good control has been obtained by spraying with light medium oil and pyrethrum extract, but often spraying is not a practicable method of treatment in avocado orchards, besides being quite expensive.

fur, the latter for the control of avocado brown mite, *Paratetranychus coiti*. From one-half to one pound of dust was applied per tree by means of a small wheelbarrow-type duster pulled by one man and pushed and operated by another.

Good results were obtained by use of this rapid and relatively inexpensive method of treatment.

Recommendations

The thrips begin to attack the fruits when the latter are about the size of a hen's egg. If the trees are dusted before the fruit has a chance to become infested, injury to the fruit may be entirely avoided. After the fruit becomes infested, it is difficult, by means of dusting, to kill the thrips which occur on the lower surfaces of the fruits.

It is recommended that in the control of greenhouse thrips attacking avocados, a 5 per cent DDT dust, containing sulfur, should be applied between June 15 and July 30, followed in five to seven weeks by a second application.

From an inspection of the orchard it may be concluded in some in-

spray, using one-half pound of actual DDT to 100 gallons of spray, to which two pounds of wettable sulfur may be added for brown mite control.

Effect of DDT on Other Pests

Not enough experience has yet been obtained to predict the long term effects of the DDT on the other pests of avocado, which might increase in numbers because of the effects of the treatments on parasites and predators.

The long-tailed mealy bug populations, however, were decreased by DDT applications made last year.

DDT Residue

Analyses of 23 samples of fruit, taken from commercially treated orchards and experimentally treated plots, showed in all cases that the residue of DDT was considerably less than the provisional tolerance of 7 parts per million allowed by the Federal Food and Drug Administration for certain crops.

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New Method For Disposal of Liquid Waste By Wineries

G. L. Marsh

Pilot scale field tests during the past vintage season proved it is possible to eliminate the odor nuisance and the mosquito menace from land disposal of winery liquid wastes, or stillage.

Methods of stillage disposal commonly in use can no longer be considered satisfactory in those areas where recent population growth has put wineries close to or in residential developments. The odors arising from the disposal ponds or lagoons, as a result of the decomposition of the organic material in the stillage, give cause for justifiable complaint.

The wine industry, through its agency, the Wine Institute, The Coast Laboratories, Inc., and the University of California cooperated during the past vintage season in carrying out successful field tests in developing a new method of land disposal of winery liquid wastes.

Intermittent Irrigation System of Disposal

The chief difference between the new method and some of the older systems, is the manner in which the liquid is applied to the land. The size, shape and area of the disposal basins or settling tanks have important places in the success of the system.

As the name implies, the liquid is added intermittently to the land set aside for the purpose, rather than continuously. This is accomplished by dividing the area of land into shallow basins—similar to irrigation checks—of a size capable of holding the daily stillage output to a depth

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Precision Planter For Row Crop Seeds Proved Successful

Roy Bainer

Precision planting of small seed row crops is now possible by the use of a metered planter which drops the seed at a pre-selected, uniform spacing in the furrow.

The development of the precision planter followed the introduction of processed sugar beet seed in 1942. The widespread adoption of the processed seed created a demand from growers for improved planting equipment.

Planters then in use failed to give the uniform distribution desired when processed seed, containing a high percentage of single-germ units, was planted at six to 12 seed units per foot—from three to six pounds per acre.

Uniform Seed Size Required

Early in the planter development program, uniform close grading of processed seed was found necessary to avoid the possibility of having more than one seed at a time in the seed wells or cells of the seed plate.

Seed processed by segmentation—the shearing of the seed ball into its parts—gave the best results when graded to within a range of 2/64-inch in size.

Seed processed by decortication or burr reduction—rubbed into parts between the mill-like wheels of a machine—may vary as much as 3/64-inch in size without causing excessive filling of the seed plate cells.

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