Control of Peach Twig Borer Under Continuing Study
Stanley F. Bailey

In the past few years 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 crowding across back and leaves sprayed with DDT, and therefore, catterpillars 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 peaches and especially in areas where the adult female moths winter in temporary shelters. The peak activity of masses of these female moths occurs from mid-April to mid-May.

DDT Residue
Preliminary tests with catterpillars have shown that the amount of DDT in the leaves depends on the picking time has been far below seven parts of DDT to one million parts of the fruit, which is the amount permissible to one apple and peach.

Small scale tests in which the fruit was treated with DDT by hand are still in progress. 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 washings.

Extra Irrigation Is Extra Expense In Prune Production
A. H. Hendrickson and F. J. Vollmeyer

There exists a general idea, that if maintaining moisture in an orchard reservoirs are available at all times is good, the addition of more water to keep the soil moisture relatively high in the root zone is not necessary.

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

Experimental irrigation plots of eight French prune trees were replanted for three times for the two treatment and four times for the third. All plots in each treatment received an equal amount of water.

Test Treatments
When all plots were irrigated, the soil was moistened to a depth of six feet, so the trees either did not have moisture to the depth occupied by the roots. Light irrigation, setting the soil to a shallow depth was not used.

Treatment A was kept at a relatively high moisture content. Treatment B was able to maintain the moisture to the permanent wilting percentage before replenishing water supply. Treatment C was irrigated during the early part of the season only, the average date of the final irrigation being July 30.

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

During the past few years the greenhouses thrips, Heliothrips 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.

The injury consists of whitish discoloration of the infected areas of the leaves and fruit, followed by a brownish appearance and listlessness of the epidermis. In case of the fruits, this may be accompanied by cracking. Premature drop of infected leaves and fruit may occur. The fruit is degraded or curded, 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, because being quite expensive.

Small scale 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.

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 washings.

Precision Planter For Row Crop Seeds Proved Successful
Roy Bailer

Precision planting of small seed row crops is now possible by the use of a mechanical planter which drops the seed at the correct depth to give uniform germination and even stand in the furrow.

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

Planters then in use failed to give the desired uniformity of seed and size. When processed seed, containing a large percentage of the average size, was planted at six to 12 seed units per foot—three to six pounds per acre, uniform seed fill was required.

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Disposal of Liquid Waste By Wineries
Los Angeles.

Waste By Wineries

For Row Crop Seeds

Agriculture

The long-tailed grassy bugs population, however, were decreased by DDT applications made last year.

DDT Residue
Analysis of 30 samples of fruit, taken from commercially treated orchards and experimentally treated plots, showed in all cases that the residual concentration of DDT was considerably less than the provisional tolerance of 1.1 parts per million allowed by the Federal Food and Drug Administration for certain crops.

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 instances 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 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 avocados, which might increase in numbers because of the effects of the treatments on parasites and predators.

The long-tailed grassy bug populations, however, were decreased by DDT applications made last year.
of more than six inches and preferably not over four inches.

Use of Disposal Basins
A number of basins should be provided so that cycling or continuous operation is not necessary, as with plate settlers, at least not seven day intervals. If this practice is followed, longer cycling periods because of higher suspended solid contents.

The waste solids remain as a thin layer on the floor of the disposal basin after the liquid disappears. As the layer dries, it cracks and curls exposing the surface openings of the soil to the air.

Four to six inches of stillage placed upon the surface of the soil will be retained within 48 hours by soils classed as sands and loams. This is an important feature of the method as it enables aerobic bacterial decomposition to reduce putrid waste waters. Intelligent handling of stillage in the disposal system has important features intended, primarily, to reduce the amount of liquid waste going to the stillage basins.

Three to four inches of liquid at any time the rate of percolation is not reduced to the minimum.

Rocks and Mosquito Avoided
A thin layer of waste solids remains on the floor of the basin after the liquid disappears. Because of the nature of the solids the upper layer of the clays is the faster than the under surface. The layer cracks and dries, curling and upwards. The combined action of the breakdown of the solid matrix and the desiccation of the surface openings of the soil to the air leads to the formation of the next application of stillage.

Soils and mosquito breeding waters are eliminated by the system of staking for the extra irrigation involved.

On the other hand treatment of small waste disposal areas appears possible.

A comparison of the results of these experiments show that soil moisture is readily available throughout the range between the field capacity and the permanent wilting percentage. The results also indicate that the soil water contents are significantly higher than the average percentage of large size was also smaller.

The results indicate that retting the soil reservoir when empty or near empty is essential to maintain moisture for the irrigation practice. In commercial operations it is necessary to keep the soil reservoir somewhat before the lower limit is reached in order to avoid the excessive acreage before the last acres are allowed to suffer two years.

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