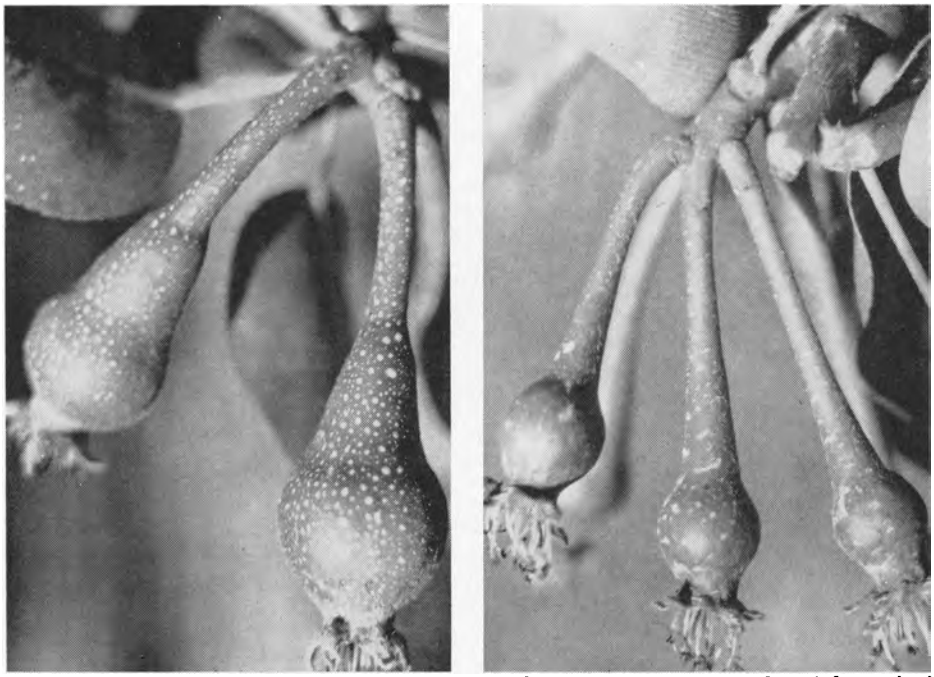

Even deposit and smaller droplet size of spray material seen on immature pear fruit, left, resulted from application with concentrate spray equipment. Spray pattern resulting from use of dilute spray machine is seen in photo, right.

at this time provided the best mite reduction with either method of application.

Brown rot counts were made at harvest although the disease incidence was not high. Equal control was obtained with either sprayer following applications including three sulfur treatments, two sulfur and one captan, or one June sulfur plus a pre-harvest captan spray.

### Almonds

Only one concentrate and dilute control test was run on almonds. A Trithion spray for brown almond mite gave very good control with both sprayers. The concentrate application was at 60 gpa and the dilute at 400 gpa. The dilute rig was similar to those used for the other tests.

### Residue data

The amount of spray residue found on leaves and fruit was utilized as a method of comparing concentrate with dilute spraying. Samples consisted of leaf sections, taken with a leaf punch, and fruit located 5 to 6 feet and 12 to 15 feet above the ground and alternately from the inside and outside of the tree. The insecticide spray deposit was analyzed by means of a gas chromatograph and the zinc oxide pattern sprays were determined by X-ray technique. In general, the residue data showed less deposit with the concentrate spray applications. However, in most cases these deposits were proportionate to the lesser amount of chemical applied per acre (25 to 70 percent) with the concentrate machine. Leaf residue data were more consistent than fruit data. On pears, the concentrate spray plots showed less deposit in the tree tops as the season progressed. Residue deposits varied with the insecticide applied.

Zinc oxide data also showed inconsistencies, especially in the tops of the trees. This material gives a white deposit which enabled spray pattern and coverage studies at any place in the sprayed tree. Safranine dye sprays gave the same effect when waxed cards or paper were placed in the tree at various locations. Both the zinc oxide and red dye sprays clearly showed the difference between the patterns of the concentrate and dilute spray deposits. The finely stippled deposit of the concentrate spray could be readily distinguished from the wash or blotchy type deposit of the dilute spray pattern.

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*Acknowledgments: Okanagan Turbo Sprayers, Ltd., Penticton, B.C., Canada, for supplying the concentrate sprayer; C. C. Cassill, Niagara Chemical Co., for running the residue analysis; N. B. Akesson, Department of Agricultural Engineering, University of California, Davis, for assisting in the engineering aspects.*

Many of the tests and experiments conducted in laboratories, greenhouses and campus test plots show promise of improving crop or animal production. But the final determination of whether to go ahead with a new variety, breed or management technique may depend on field scale commercial testing. Hundreds of California farmers and stockmen cooperate each year in this field testing program under the direction of Experiment Station and Extension Service researchers. Their generous contributions of land, water, seed, plants and animals for this purpose are rewarded only by the satisfaction of knowing they have contributed to the improvement of agricultural production—and the general welfare of mankind.

# FARM COOPE

**THE COVER PHOTO**

In the field trial shown, Thompson Seedless grapes were grown on four different rootstocks—their own, Salt Creek, Dogridge, and 1613. This was a replant situation in soil heavily infested with root-knot nematodes. The vines grown on their own rootstocks failed completely; those on Dogridge had the most growth, followed by Salt Creek and 1613. Those on Salt Creek and Dogridge produced about the same yield—considerably better than those on 1613, which made very little growth (row on right in photo). The test was conducted at the Robert Brose vineyard, Fresno County, under the supervision of Curtis D. Lynn, Farm Advisor.

THE TEST PLOT to right, at the Skip Sato farm, Arroyo Grande, San Luis Obispo County, is aimed at determining whether or not summer-planting of strawberries in San Luis Obispo County will enable growers in that area to compete more favorably in the early market with counties farther south. The varieties being tested are Fresno, Solano, Torrey, Lassen, Shasta, and 8-29. Lassen and Shasta are standard varieties in the area but little or no experience has been reported with the others. Alternate rows of each variety have been covered with polyethylene to see what effect this will have on warming up the beds in early spring. The work is under the supervision of Victor Voth, Associate Specialist in Pomology, South Coast Field Station, Santa Ana, and Tom Aldrich, Farm Advisor in San Luis Obispo County.


# RATORS IN RESEARCH

THIS TEST PLOT, at D'Arrigo Brothers farm, Salinas, Monterey County, is being used to study a number of new herbicides —diphenamid, trifluralin, and Banvel-T. CDEC (Vegedex), a registered herbicide, is also being used as a standard. All of the experimental materials were incorporated into the soil in a logarithmic pattern with decreasing rates going down the rows. To date, diphenamid and trifluralin have shown promise as topical sprays, but some of their effectiveness seems to be lost when they are incorporated into the soil. Selective weed control appears to be at the 4 to 6 pound per acre rate of application with the diphenamid and trifluralin chemicals. Banvel-T selective weed control appears to be in the range of 6 to 8 pounds per acre. The phytotoxicity of these chemicals to the crop will be studied throughout the crop season. It is planned to make thinning cost studies on the replicated CDEC plot at a later date. The experiment is under the direction of Harry Agamalian, Farm Advisor at Salinas.