

CONTROL PRODUCTION

W. H. LANGE · F. J. HILLS
R. S. LOOMIS · J. KISHIYAMA

Two and four biweekly applications increased root yield, but not as much as the eight weekly applications. Judging from winged aphid catches, it is possible that four or five applications at weekly intervals could have produced the same result (30% increase in sugar production) achieved by the eight applications because the last three or four applications were applied after aphid flight activity had decreased to a low level.

Applications

In 1966, two and three applications improved production about as much as the maximum treatment. It is quite possible that the first application (on April 18) was the most effective as additional treatments failed to increase root yield and aphid flights terminated in early May.

On the basis of experiments at Davis since 1962, it appears that effective suppression of aphid-borne virus diseases through the use of aphicides depends on: 1) A delay in planting to late March. Earlier planting results in excessive exposure of young plants to viruliferous winged aphids and makes control more difficult. 2) Starting aphicide treatment

as soon as plant rows are visible. 3) The use of a high volume application, at least 25 gallons of solution per acre and preferably more, applied by ground equipment. 4) From three to five applications of an effective aphicide, such as Meta-systox R, at weekly to 10-day intervals. However, Meta-systox R is registered for use on sugar beets for only two applications per season at 8 ounces of actual toxicant per acre. Therefore, more than two applications of Meta-systox R cannot be recommended at this time for use on sugar beets to control aphid-borne virus diseases.

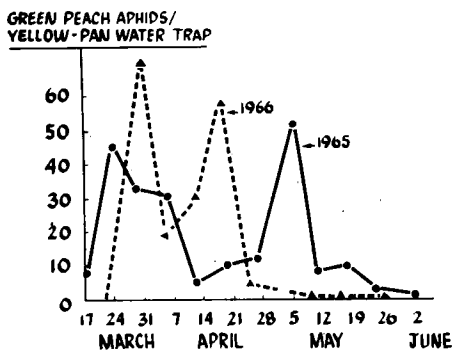
Yellow-pan water traps have been effective in evaluating winged aphid activity and can be used to indicate when protection against aphids is no longer necessary.

W. H. Lange is Professor, Department of Entomology; F. J. Hills is Extension Agronomist; R. S. Loomis is Associate Professor, Department of Agronomy; and J. Kishiyama is Laboratory Technician II, Department of Entomology, University of California, Davis. H. Michalk, formerly Laboratory Technician III, Department of Entomology, assisted with the 1965 experiment.

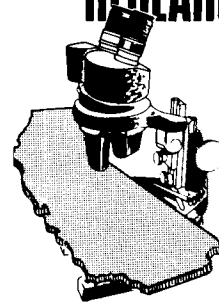
CORRECTION: BED MULCHES FOR STRAWBERRIES

In the article, "Bed Mulches for Strawberries," *California Agriculture*, September, 1967, the last sentence should read, "However, clear poly was superior (to gray-smoked polyethylene mulch) in stimulating desirable performance responses, but neither of the two inhibited weed seed germination or growth." The authors point out that while the clear polyethylene proved superior in these tests as a mulching material (to stimulate earliness of production in winter-planted strawberries) in comparisons with colored polyethylene and petroleum mulch, only the black polyethylene mulch resulted in weed control.

WEEKLY CATCHES OF GREEN PEACH APHIDS AT DAVIS IN EIGHT YELLOW-PAN WATER TRAPS



RESEARCH PREVIEWS



A continuing program of research in many aspects of agriculture is carried on at University campuses, field stations, leased areas, and many temporary plots loaned by cooperating landowners throughout the state. Listed below are some of the projects currently under way, but on which no formal progress reports can yet be made.

SOIL PROPERTY STUDIES

The departments of Agricultural Engineering and Soils and Plant Nutrition at Davis are cooperating in studies for understanding the basic qualities of soil that give it mechanical strength and resistance to tillage and plant growth. Preliminary findings are encouraging and it is felt that future information may even aid in the design of tillage equipment that will be more efficient in breaking up the soil and exert less compressive influence.

LEARNED COCKROACHES

UCLA entomologists working on the development of household pest control measures have found that German cockroaches can "learn" to avoid insecticides and inert powders that are repellent to them—even when they are applied in dark areas where the insects normally hide and in which they initially make some contact with the deposits.

CONTROLLED DORMANCY

Basic studies by pomologists at Davis indicate that dormancy is controlled in buds and seeds of fruit trees with one and the same substance. It is hoped that further knowledge of this compound may lead to an ability to break the rest in tree buds and seeds artificially, and to prolong it and thereby reduce the hazard from frost injury.

INSECT CONTROL BY SOUND

Several species of insects were exposed to high frequency sound waves (up to 40,000 cps) in an effort to develop a method of control without use of chemicals. Results to date have been negative.

GROUND SQUIRREL CONTROL

A highly potent steroid compound that inhibits reproduction in rodents has been found to work well in laboratory experiments with ground squirrels. Field tests of the material are planned.