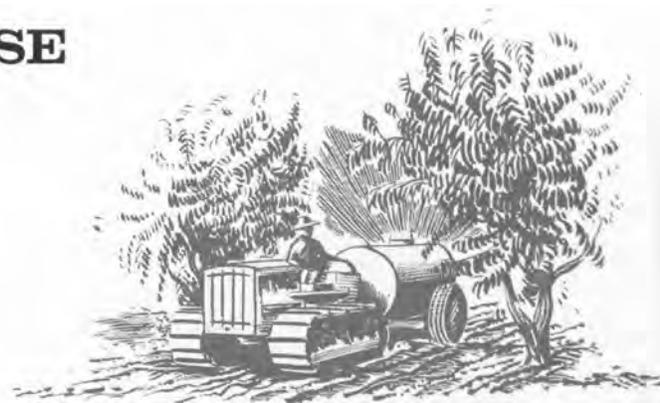


Combination spraying of peach trees with organophosphorus insecticides plus oil, and application in May rather than in the dormant season, are two important factors in obtaining more effective control of San Jose scale, according to recent tests in Fresno County.

THERE HAS BEEN a growing interest in the relative effectiveness of newer types of highly refined paraffinic petroleum oil sprays for San Jose scale control. However, the use of organophosphorus insecticides with the oil may be more important than the type of oil used, according to recent tests in Fresno County. Of even more importance is the greater effectiveness of this combination spray applied in May rather than in the dormant season. Direct comparisons were made of sprays applied in the dormant season, using Volck Supreme oil alone, dormant oil emulsion alone, and both oils with emulsifiable parathion or parathion wettable powder. Oil-Trithion sprays applied in May were found much more effective than the best dormant sprays tested for control of San Jose scale on peaches.

In testing sprays for control of San Jose scale, the number of scales on the basal 10 internodes of five twigs per tree were generally counted in November or December before the sprays were applied. Counts were then repeated eleven or twelve months later. The long waiting period between spray application and the second count provided a critical test of control. Each count was made on the growth of the current season. Scales moving onto the new twig growth after spraying are believed to be almost entirely the progeny of insects surviving treatment.

Sprays for SAN JOSE SCALE on Peaches, Fresno County



RESULTS OF 11 SPRAYS TO CONTROL SAN JOSE SCALE ON PEACHES, FRESNO COUNTY, 1962, LISTED IN ORDER OF EFFECTIVENESS

Materials per 100 gallons	Index of Effectiveness
Sprays applied May 15, 1962	
1. Volck Supreme oil, 1 gal.; Trithion 25% wettable, 2 lb. ....	.93
2. Light-medium oil, 1 gal.; Trithion 25% wettable, 2 lb. ....	.89
Sprays applied February 1, 1962	
3. Volck Supreme oil, 2 gal.; Parathion 25% wettable, 2 lb. ....	.72
4. Dormant oil emulsion, 3 gal.; Parathion 25% wettable, 2 lb. ....	.66
5. Volck Supreme oil, 2 gal.; Parathion emulsifiable, 1 pt. ....	.55
6. Volck Supreme oil, 1 gal.; Parathion emulsifiable, 1 pt. ....	.44
7. Dormant oil emulsion, 4 gal. ....	.36
8. Volck Supreme oil, 1 gal. ....	.34
9. Dormant oil emulsion, 3 gal. ....	.26
10. Volck Supreme oil, 2 gal. ....	.21
11. Dormant oil emulsion, 2 gal.; Parathion emulsifiable, 1 pt. ....	.10

were calculated in terms of an index of effectiveness. The higher the index, the greater was the effectiveness, as shown in the table.

Sprays applied in May were more effective than sprays applied in February, as indicated in previous tests. Where direct comparisons could be made, the addition of an emulsifiable parathion formulation or 25% parathion wettable powder increased the effectiveness of dormant oil sprays. In combination with Volck Supreme oil, parathion wettable powder was more effective than the emulsifiable parathion. All oil-parathion combination sprays, except one, were more effective than oil alone at the rates tested. The index-of-effectiveness ratings in the table show the oil-Trithion combination spray, applied in May, was more effective in controlling San Jose scale than any other treatment.

Results of the use of any particular spray oil are influenced by chemical and physical properties, formulation, depositing characteristics, thoroughness of spray coverage, and other factors. The choice of oil and insecticide for San Jose scale control may depend on additional considerations such as cost, hazard, and need for controlling other insects, mite pests, or plant diseases with the same application.

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The size of the initial infestation has been found to have an influence on the numbers of scales found on new growth after spraying. To minimize this effect of degree of initial infestation, peach trees were placed in eight groups before spraying, according to pretreatment count. The eight groups ranged from low infestations of 87 to 358 scales found on every five twigs, to high infestations of trees found with 1,951 to 4,547 scales for every five twigs. Eleven spray treatments were used, with nine applied February 1 and two applied May 15, 1962. Each tree in every treatment group was compared with a tree selected from the same initial infestation group in every other treatment.

Comparisons were made on the basis of posttreatment counts and the results

CALIFORNIA AGRICULTURE

Progress Reports of Agricultural Research, published monthly by the University of California Division of Agricultural Sciences.

William W. Paul, *Manager*
Agricultural Publications
Jerry Lester, *Editor*
California Agriculture

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