

DORMANT SPRAYS

with experimental insecticides for control of PEACH TWIG BORER

These trials indicate that several experimental materials would be very effective on peach twig borers. It is also apparent that dormant sprays provide an excellent means for reducing peach twig borer populations, and at a time of year when spraying results in probably the least ecological disruption. Dormant sprays in other trials have also proved effective for control of San Jose scale, and overwintering mite and aphid eggs.

TABLE 1. CONTROL OF PEACH TWIG BORER ON NONPAREIL ALMONDS WITH DORMANT SPRAYS, KERN COUNTY, CALIF. 1971*

Chemical†	Formulation	Amt. per 100 gals.	Mean no. strikes/rep‡
Dursban + oil	4 EC	1 pt.	1.25 a
Supracide	2 EC	1 qt.	1.75 a
Dibrom + oil	8 EC	1 pt.	2.75 ab
Diazinon + oil	50 WP	1 lb.	4.25 ab
Pirimiphos-m + oil	4.3 EC	1.2 qt.	4.50 ab
Fundal/Galecron + oil	97 SP	0.5 lb.	8.50 abc
Gardona + oil	75 WP	1 lb.	17.75 bcde
Bayer 37344 + oil	50 WP	1 lb.	29.75 cde
Lannate	3 EC	1.5 pt.	39.25 de
Zolone + oil	3 EC	1.5 pt.	48.50 e
Ortho 12420	75 SP	0.5 lb.	98.75 f
Ortho 12420 + oil	75 SP	0.5 lb.	106.25 f
DPX 1410	2 EC	1 qt.	132.00 fg
Check	-	-	195.00 g

* Third-leaf Nonpareil almonds; treated 1-26-71, counted 4-7-71.

† Oil applied with chemicals = Volck Supreme at 2 gal./100 gal. water.

‡ Means followed by the same letter are not statistically different at the 5% level of significance, using Duncan's Multiple Range Test.

TABLE 2. CONTROL OF PEACH TWIG BORER ON THOMPSON ALMONDS WITH DORMANT SPRAYS, FRESNO COUNTY, CALIF. 1971*

Chemical†	Formulation	Amt. per 100 gals.	Mean no. strikes/rep‡
Supracide + oil	2 EC	1 pt.	0.00 a
Pirimiphos-m + oil	4.3 EC	1.2 qt.	0.25 a
Dursban + oil	4 EC	1 pt.	0.75 a
Diazinon + oil	50 WP	1 lb.	3.00 ab
Dibrom + oil	8 EC	1 pt.	5.50 ab
Fundal/Galecron + oil	97 SP	0.5 lb.	5.75 ab
Lannate	3 EC	1.5 pt.	20.25 bc
Gardona + oil	75 WP	1 lb.	26.50 bc
Ortho 12420 + oil	75 SP	0.5 lb.	44.75 c
Bayer 37344	50 WP	1 lb.	50.75 c
Ortho 12420	75 SP	0.5 lb.	58.00 cd
DPX 1410	2 EC	1 qt.	123.00 d
Check	-	-	305.00 e

* Third-leaf Thompson almonds; treated 1-29-71, counted 4-14-71.

† Oil applied with chemicals = Volck Supreme at 2 gal./100 gal. water.

‡ Means followed by the same letter are not statistically different at the 5% level of significance, using Duncan's Multiple Range Test.

THE PEACH TWIG BORER, *Anarsia lineatella* Zeller, is the most serious lepidopterous pest of stone fruits in California. Primary hosts include peaches, nectarines, and almonds, while apricots, cherries, plums and prunes are also attacked. The larvae stay in the shoots and twigs during spring and early summer and then invade the fruit as it begins to ripen.

The peach twig borer overwinters as an immature larva in small mines under the bark of the tree. These overwintering sites (hibernacula) are usually found in the crotches of small branches or limbs. Because of their overwintering habits, twig borer larvae are relatively easy to control with insecticidal sprays during the dormant or delayed-dormant period. The results of field trials using several experimental insecticides for dormant control of peach twig borer are reported here.

The first trial was performed in northern Kern County. Twelve chemicals were applied to third-leaf Nonpareil trees with a handgun at 250 psi, using approximately 1 gallon of dilute spray per tree. In most cases, the insecticides were combined with oil—a normal procedure with dormant twig borer sprays. Plot design was a randomized complete block replicated four times, with four trees per replicate. Weather conditions during application were high, thin fog, and a temperature of about 60°F, relative humidity of 65%, and wind at 1 to 5 mph. On the date of application, January 26, 1971, the buds were beginning to swell and showed slight greening. Plots were evaluated April 7, 1971, by counting the number of flagged terminals (strikes) per treatment (see table 1).

Six of the chemicals applied to Nonpareils reduced the twig borer population by more than 95% as compared with the untreated check. One of these materials, Supracide, provided this level of control

without the addition of oil. The performance of Diazinon plus oil, included as a standard treatment, placed this combination among those which provided superior control.

Another test of dormant sprays for peach twig borer was performed in Fresno County during 1971. The trees selected for this trial were of the Thompson variety, coming into the third leaf. Chemicals were applied with a handgun at 300 psi with about 1 gallon of spray per tree. Plot design was a randomized complete block with four replicates, but in this case only two trees per replicate. The treatments were applied on January 29, just as the buds were beginning to swell. Weather during application was foggy, with temperature 40°F, relative humidity 75%, and wind 0 to 5 mph. Tree bark was allowed to dry before the chemicals were applied. This trial was evaluated on April 14, 1971 (see table 2).

The same six materials which gave superior control on Nonpareils also gave superior results when applied to the Thompson trees. However, their relative ranking within the superior group was somewhat re-arranged. The standard Diazinon and oil treatment again ranked within the group of more effective chemicals.

With the exception of Diazinon, none of the materials included in the trials described here are registered—or recommended—at this time for use on peach twig borer during the dormant period.

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