

# Controlling

## PEAR RUST MITE

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**T**HE PEAR RUST MITE, *Epitrimerus pyri* Nalepa, has been a persistent but sporadic pest of pears in California. When present in the orchard, it is of major concern to growers because the russetting type of feeding damage can affect the market value of the fruit. Russetting can be caused by a relatively small number of mites beginning early in the season, while very high mite populations can cause defoliation. It is therefore sometimes necessary to use chemical controls against this mite, particularly when chemical controls for other pests destroy the mite's predators.

The proper time to treat for the pear rust mite is partially determined by the way in which the fruit is to be marketed. Pears destined for the fresh fruit market must be treated early in the season when mites are low in number on individual fruit, and generally distributed on the total crop. Some russetting on canning pears is tolerable, so that mites can be allowed to build up to moderate levels for short periods of time. The buildup should be monitored closely, however, since russetting can contribute to the downgrading of overall fruit quality. When pear rust mite populations have been present in the orchard during the growing season, a post-harvest clean-up treatment may be necessary in order to prevent an early season mite buildup the following year. Observations indicate that this treatment should

be made before the mites migrate from the leaves to the twigs.

Tests were conducted in the fall of 1972 and the summer of 1973 to determine the efficacy of pesticides and oil combinations against pear rust mite and to test their ability to maintain mite populations at low levels. The post-harvest treatments were applied to a Bartlett pear orchard in Lake County. All the materials used (see table), with the possible exception of Thiodan plus Triton B-1956, gave good initial kill of the rust mites. The addition of oil to Thiodan increased its effectiveness. The sample taken eight months after treatment (6/7/73) showed a big difference in the ability of the spray chemicals to prevent resurgence of the mite populations. Lime sulfur plus oil was most effective in preventing resurgence; Diazinon plus oil and Thiodan plus oil were somewhat less effective, and Thiodan plus Triton B-1956 and Kelthane MF were ineffective in preventing mite resurgence.

The summer pear rust mite treatments were conducted at the University of California Deciduous Fruit Field Station, San Jose. There was no significant difference between the treatments in their ability to provide an initial knockdown of the mites. However, Chlorobenzilate was significantly less effective than other treatments 18 and 31 days after treatment. These data are somewhat tenuous

because counts in the untreated check plots indicate that the treatments were applied to a declining mite population. Some minor marginal leaf burn was noticed in the treatments in which oil was combined with the pesticides.

All these treatments were applied to runoff by handgun. Observations in some orchards have indicated that failures to control rust mite or to prevent mite resurgence when trees are in full foliage seem to be associated with poor coverage of the trees by the spray chemicals.

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EFFECTIVENESS OF PESTICIDES IN THE REDUCTION AND MAINTENANCE AT LOW LEVELS OF PEAR RUST MITE POPULATIONS, LAKE CO., 1972-73

Material & formulation*	Al/ 100 gals	Mites/leaf†		
		10/2/72**	10/6/72	6/7/73
Lime Sulfur plus	5 gal			
Volck Supreme oil	1 gal	291	0	7
Diazinon 50% wp plus	8 oz			
Volck Supreme oil	1 gal	148	1	21
Thiodan 25% wp plus	4 oz			
Volck Supreme oil	1 gal	148	0.6	34
Thiodan 25% wp plus	4 oz			
Triton B-1956		355	4	286
Kelthane MF 4 ec plus	8 oz			
Triton B-1956		211	0	442
Untreated check	—	246	215	1398

\* Sprayed to runoff with handgun on Oct. 2, 1972.

\*\* Pre-treatment count.

† Counts made from 3-1 cm. diameter leaf discs per leaf. 30 leaves per treatment.