Early Sprays for Mite Control

European red mite on pear trees held in check by prebloom sprays until the summer treatment period

Control of European red mite—

*Metatetranychus ulmi* Koch—is one of the major problems of pear and apple growers.

There are acaricides available that will control European red mite during the foliage season, but most of them are apt to cause foliage or fruit damage on pears when applied at or shortly after the petal fall period. The organic phosphate compounds are an exception and can be used early in the season without fear of injury, but in several areas, European red mite has shown resistance to these compounds.

European red mite overwinters on the tree as an egg and hatches about petal fall time. In most seasons, the mite does not build up damaging populations until June, when warm weather arrives. The past two seasons, however, a period of unusual warm weather occurred shortly after petal fall, and the mites built up high populations in the very early season. This early build-up resulted in considerable damage to the developing foliage.

Dormant oils have been used in an attempt to control the mite while in the overwintering egg stage, but seasonal control has not been obtained. In fact, results have been somewhat erratic, with the degree of control dependent upon thoroughness of application and the number of eggs present on the trees.

Prebloom Tests

Experimental plots were set up in the winter and spring of 1953 in an attempt to obtain better control of the European red mite eggs. The preliminary plots indicated that Genite-923 and Ovotran showed considerable promise as prebloom treatments.

The logical time to apply prebloom acaricides on pears in California would be at the cluster-bud stage.

The standard suggestion for pear-scab control in most pear-growing areas is the use of lime sulfur and wettable sulfur during the cluster-bud stage. If an acaricide could be used at this time, it would add only the cost of the material to a standard spray.

The 1953 results showed that Genite-923 could be used in combination with lime sulfur, and this spray gave very

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The plots were evaluated during the foliage season by making mite counts at two-week intervals. The results of the 1954 plots are shown in the two accompanying charts. Plots were retreated when the mite populations reached an average of 4-5 European red mites per leaf, as previous work has shown that an average of 4-5 European red mites per leaf is capable of causing leaf bronzing and leaf burn.

Dormant oils held the mites in check until June, and the oil-parathion combination was slightly better. It is doubtful if the slightly more effective oil-parathion combination would replace the standard dormant oil suggestion in view of the hazardous nature of the combination. Oil and malathion was not effective against the overwintering mite eggs and required retreatment at the same time as the checks.

Of the delayed dormant and cluster bud sprays, Genite-923 and Mitox were the only materials to give adequate control, and these plots did not require treatment until July. The other acaricides, although reducing mite populations below that of the checks, did not give commercial control.

Genite-923 has been tested for two seasons and has given good results each time as a prebloom spray. Mitox is as yet an experimental product and will be retested the coming season.

From these experiments, it is evident that a prebloom treatment with the proper acaricide will hold the European red mite in check until the summer period, when other acaricides can be used without fear of injury to foliage or fruit.