	Treatment	Aphid Mortality	Predator Population
1)	Untreated	3.0 A	2.7 A
2)	Oil, full coverage (2% in 100 gal. water/A)	2.6 AB	2.0 A
3)	Mycotrol	2.6 AB	2.0 A
4)	Oil, 1/2 coverage (2% in 100 gal. water/A)	2.5 AB	1.3 A
5)	Oil, full coverage (2% in 200 gal. water/A)	2.3 B	1.3 A
6)	Piramor	1.0 C	1.0 A
Treatment means not followed by a common letter are significantly different from one another at the 5% level of significance according to Duncans Multiple Range Test.			

Late Fall Prune Aphid Sampling

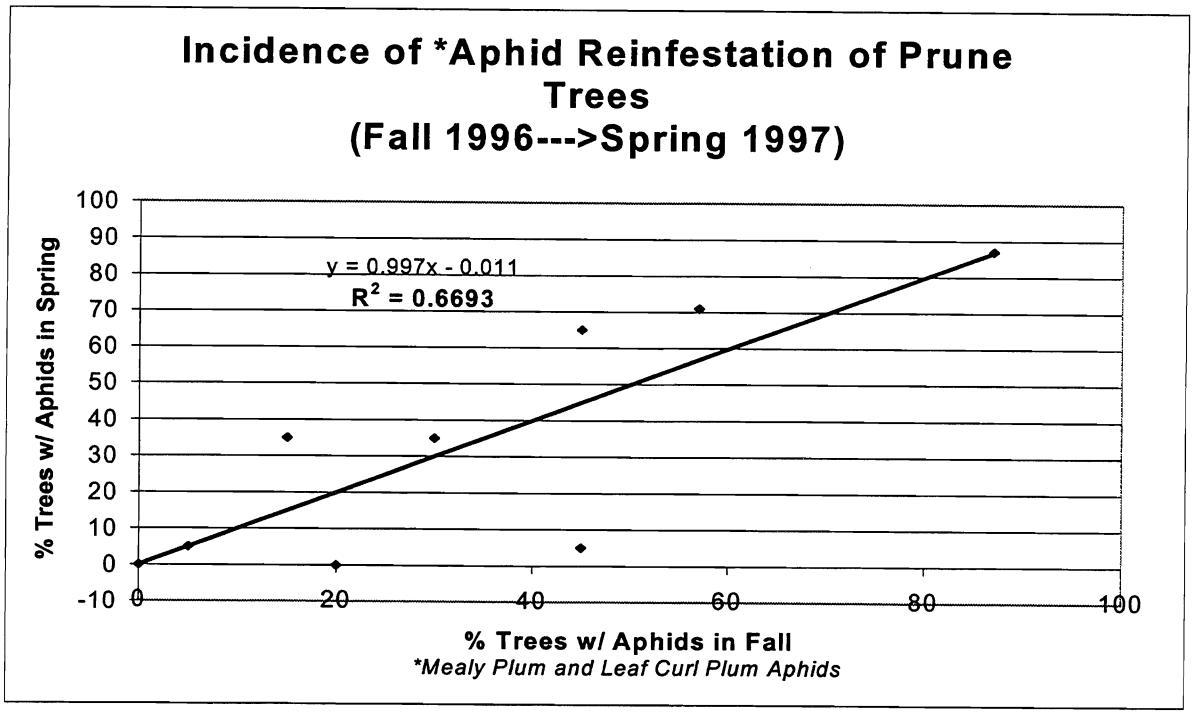
Carolyn Pickel, Bill Olson, Bill Krueger and Rick Buchner

During the last several years of the BT demonstration project from 1991 - 1994 both prune aphids, mealy plum aphid and leaf curl aphid, began to cause damage in 30% of the orchards using the BT program. For several years the research attempted to use the dormant spur sample to predict a spring aphid population. This proved to be time consuming and not accurate enough. It only requires 3 eggs on a tree to cause economic damage on a tree and it proved difficult to sample enough to find this low a population. In the fall of 1996 research was started to develop fall sampling to predict economic spring aphid populations.

In the fall aphids start to migrate back to orchards from their alternate summer hosts, cattails for mealy plum aphid. They can have one to three generations on the trees depending on the weather during fall. So there will be higher spring aphid populations following a warm fall. The aphids returning must have one generation before they are physically capable of laying overwintering eggs. In some years aphids remain in the tree all summer when growth is young and succulent. These aphids that remain on the tree are not capable of laying overwintering eggs. They must return from the alternate host plant. As the trees drop their leaves in the fall they move to the remaining leaves making it much easier to find them on the tree.

We monitored trees after 75% of the leaves have dropped. We looked at 20 trees per block (10 trees on each end of he orchard) and recorded presence of absence of aphids on each tree. We looked at 100 leaves per tree that included 25 per quadrant, north, south, east and west. All 20 trees were marked with one color ribbon if they were sampled and a second color ribbon if they had aphids. This was done to make sure the same trees

would be monitored in the spring. The orchard was then sampled again during the last 2 weeks of April. In 1996 we looked at 13 blocks in Sutter, Butte, Glenn, and Tehama County. The data was analyzed by a linear regression and is shown in the figure. The results from the winter of 1996/97 show promising results for a simple method for growers to determine the need to spray a dormant insecticide for aphid control.



Effect of Prune Rust on Fruit Quality

Bill Krueger, Bill Olson, Nadeem Shawareb, & Zachary Heath

Introduction

Prune rust is caused by a fungus, *Tranzschelia discolor*, which damages prune trees by causing defoliation. If defoliation occurs before harvest, yield can be reduced, and can cause the tree to bloom again in late summer or fall. Prune rust is most severe in areas with high humidity and/or late spring rains, and orchards in such locations should be protected with fungicide treatments.

The experiment looked at the effect on fruit caused by leaf rust infection other than defoliation. This paper deals only with the treatment that provided the best rust control; a