ABSTRACT

A study to measure the effect of walnut scale infestation on walnut quality and yield was initiated in the spring of 1983. A mature Ashley block infested with walnut scale was used for the study. Half the trees in the plot were treated in March 1983 to control walnut scale and half remained untreated. The same trees were treated again in March of 1984. Nut samples analyzed for quality showed no differences for 1983. Harvest data collected in 1984 showed no differences. Data for 1984 nut quality is not yet available.

OBJECTIVES

To study the effect of walnut scale infestation on walnut kernel quality and total yield.

PROCEDURE

In March of 1983 forty trees in a single row of mature Ashleys infested with walnut scale were selected. The trees were rated according to size and paired with the closest tree in the row with the same size rating. Treatment was then assigned by the toss of a coin. Twenty of the trees were treated on March 25 by a hand gun with the label rate of Supracide. Twenty were left untreated. Five spurs from each tree were sampled at random before and after the treatment and all stages of live scale were counted on a 4 inch section of each spur. During peak scale activity double-sided sticky tapes were placed on two limbs (1-1/2 - 2 inches in diameter) in 5 treated trees and 5 untreated trees and changed and counted twice weekly to assess scale levels in the two treatments.

At harvest during 1983 nut samples were collected from all forty trees and analyzed for quality by Diamond Walnut Growers. During March of 1984 the trees treated with Supracide in 1983 were sprayed again with Supracide. Scale activity was monitored during peak crawler emergence for both generations using double-sided sticky tapes as was done during 1983. Yield data was collected from individual trees for the 1984 harvest divided by trunk circumference to take out differences due to tree size. Samples were collected and analyzed for quality.

RESULTS & CONCLUSIONS

1983 - Scale counts made on the spur samples collected before and after treatment indicated that the treatment was effective in reducing scale populations on the treated trees. Sticky tape counts indicated that these populations remained low throughout the growing season while good activity was detected on the check trees.
Nut samples indicated no significant differences in any of the quality parameters measured.

1984 - Sticky tape counts again indicated very little scale activity on the sprayed trees as compared to the unsprayed checks.

Yield data indicated no difference between the treated and untreated trees. Quality data for 1984 is not yet available.

To this point walnut scale infestation has had no effect on walnut yield or quality. I plan to continue this study for at least one more year to see if this continues to be true.