IPFP Satellite Project

DETERMINING BEST TIME FOR FRUIT MONITORING TO DETERMINE TREATMENT NEED AND TREATMENT TIMING OF OBLR - 2003

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OBJECTIVE

Oblique-banded leaf roller (OBLR) is widely distributed and has a large host range. OBLR is not well controlled with dormant treatments and occasionally is an economic pest of prunes. Pheromone traps catch large numbers of OBLR but provide no information on potential fruit damage or the need for a treatment (see 2002 report). The objective of this project is to determine when to first look for OBLR larvae and/or larvae damage in the spring to accurately identify the best treatment timing.

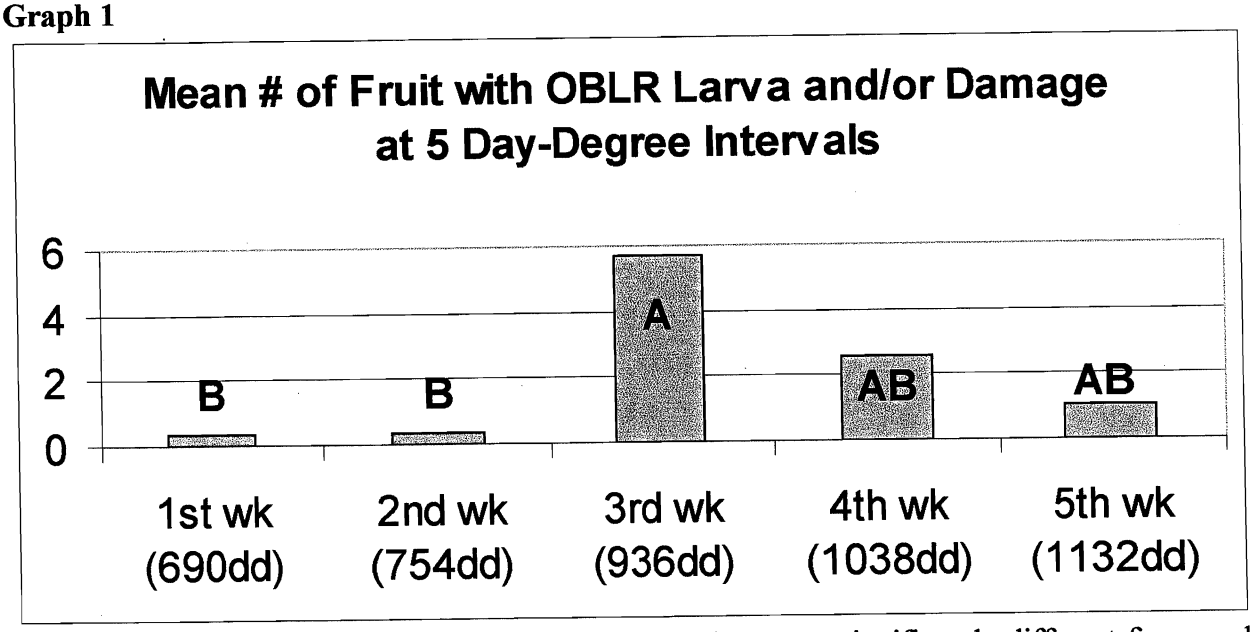
PROCEDURE

OBLR pheromone traps with the new commercial lure (see 2002 report) were placed in each orchard in late April to determine biofix dates. Traps were placed at least 10 trees into the orchard, monitored weekly and maintained only through biofix.
Beginning at 690 day-degrees after biofix plots were monitored for the presence of leafroller larvae and/or damage. Monitoring consisted of examining 15 fruit per tree on 80 trees each week for five consecutive weeks. A harvest sample of 1000 fruit included recording any oblique-banded leafroller damage.

RESULTS

Leafroller larvae and/or larval damage first became abundant during the third week of fruit monitoring, which averaged 936 day-degrees from biofix. There were significantly more leafroller larvae and/or leafroller damage observed during the third week of monitoring than at any previous weeks fruit monitoring (Graph 1). Actual leaf roller larvae were first found at the third weekly reading, before that only leaf roller damage was recorded (data not shown).

Graph 1



Treatment means that are not followed by a common letter are significantly different from each other at the 5% level according to Duncan's Multiple Range Test for Mean Separation.

CONCLUSION

Although some leafroller damage was recorded during the first and second weeks of monitoring (690 and 750 day-degrees respectively) no larvae were actually found. This suggests that these early identifications of fruit damage caused by leafrollers were in error. Leafroller larvae were first found during the third week of monitoring, 936 day-degrees from biofix. Significantly more leafroller larvae and/or larval damage were found at the 936-day degree monitoring after biofix than at any previous monitoring time. Leafroller larvae and/or larval damage observed did not increase after the 936 day degree reading from biofix. No OBLR larvae were found prior to the 936 day-degree monitoring. Monitoring at 690 or 754 day- degrees is too early to find evidence of leafroller larvae in order to make a treatment decision. Based on last years results (see 2002 report) and this years results a good monitoring strategy would be to monitor the fruit at 936 day-degrees after biofix to determine the level of OBLR present in the orchard and to schedule treatment timing. If a treatment decision can not be made (yes or no) at this monitoring a second and final monitoring would be recommended one week later to confirm that the leafroller population has not exceeded the treatment threshold.