Use of a Host Plant Volatile Blend to Monitor Navel Orangeworm Populations Under Mating Disruption & Conventional Management in Almond

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PROJECT SUMMARY

Objectives for current year:

- Determine over a multi-year experiment if a recently developed blend of synthetic host plant volatiles (Blend) can efficiently monitor male and female navel orangeworm (NOW) populations during mating disruption studies in almond orchards.
- Using field trapping compare the efficacy of the Blend, almond meal, and the synthetic pheromone blend.

Background and Discussion:

Despite successes with mating disruption (MD) treatments and IPM programs for control of navel orangeworm (NOW), as well as recent advances with the synthetic pheromone blend (*Suterra BioLure*) for monitoring male NOW, many almond orchards continue to be at risk by this insect pest.

Over the last four years a synthetic blend of host plant volatiles (the Blend) has proven more effective than the current monitoring standard, almond meal, for capturing NOW moths in almond orchards. Moreover, unlike almond meal, the host plant volatile blend attracts both female and male NOW.

MD-treated orchards should remain a viable option for effective pest control and to ensure NOW do not develop resistance to pyrethroids. Almond meal, though not entirely effective, is the current monitoring tool during MD treatments. This is the second year of study comparing the Blend to other attractants in MD-treated almonds.

The first year of study showed the Blend to be an effective attractant during MD treatments of both male and female NOW moths.

A consistent and effective monitoring tool for both male and female NOW in MD treatments would provide the almond industry with another method to assist pest management decisions in MD-based IPM programs. Replicates of the Blend, almond meal, and the pheromone blend were evaluated for the ability to attract NOW moths in MD-treated and conventional almond orchards during the 2015 growing season.

Because of the mono-sex attractancy of both almond meal and the pheromone blend, the ability of the Blend to attract both male and female NOW moths may provide a unique dimension to monitoring moth populations in MD orchards.

Preliminary analysis of the data collected thus far for the second year indicates the Blend continues to outperform almond meal. These data suggest a higher resolution than is provided by pheromone- or almond meal-based attractants in a MD environment and as well, the Blend will have utility in conventional treatment orchards not under MD treatment.

Project Cooperators and Personnel: Bradley S. Higbee, Wonderful Orchards, Ring Cardé, (UC-Riverside

For More Details, Visit

- Poster location 18, Exhibit Hall A + B during the Almond Conference; or on the web (after January 2016) at Almonds.com/ResearchDatabase
- 2014 - 2015 Annual Reports CD (14-ENTO4-Beck); or on the web (after January 2016) at Almonds.com/ResearchDatabase
- Related Project: 15-ENTO9-Cardé