

Use of a Host Plant Volatile Blend to Monitor Navel Orangeworm (NOW) Populations During IPM Treatments in Almond Orchards

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PROJECT SUMMARY

Objectives for current year:

- Determine if a recently developed blend of synthetic host plant volatiles (Blend) can efficiently monitor male and female navel orangeworm 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 three years a synthetic blend of host plant volatiles 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 efficacious, is the current monitoring tool during MD treatments. The recently developed synthetic host plant

volatile blend has proven to be more effective at trapping NOW in almond orchards during non-MD studies. This is the first study comparing this novel Blend to other attractants in MD-treated almonds.

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 2014 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 so far indicate the Blend is outperforming almond meal almost 10:1. This may indicate a better resolution than is provided by pheromone- or almond meal-based attractants in a MD environment.

Project Cooperators and Personnel: Bradley S. Higbee, Paramount Farming Co., Ring Cardé, (UC-Riverside)

For More Details, Visit

- Poster location 19, Exhibit Hall A + B during the Almond Conference; or on the web (after January 2015) at Almonds.com/ResearchDatabase
- 2011-2012 Annual Reports CD (11-ENTO4-Beck); or on the web at Almonds.com/ResearchDatabase
- Related Project: 14-ENTO9-Cardé