



# Control of navel orangeworm in almonds using insecticides and assessing spray coverage

YEAR 3

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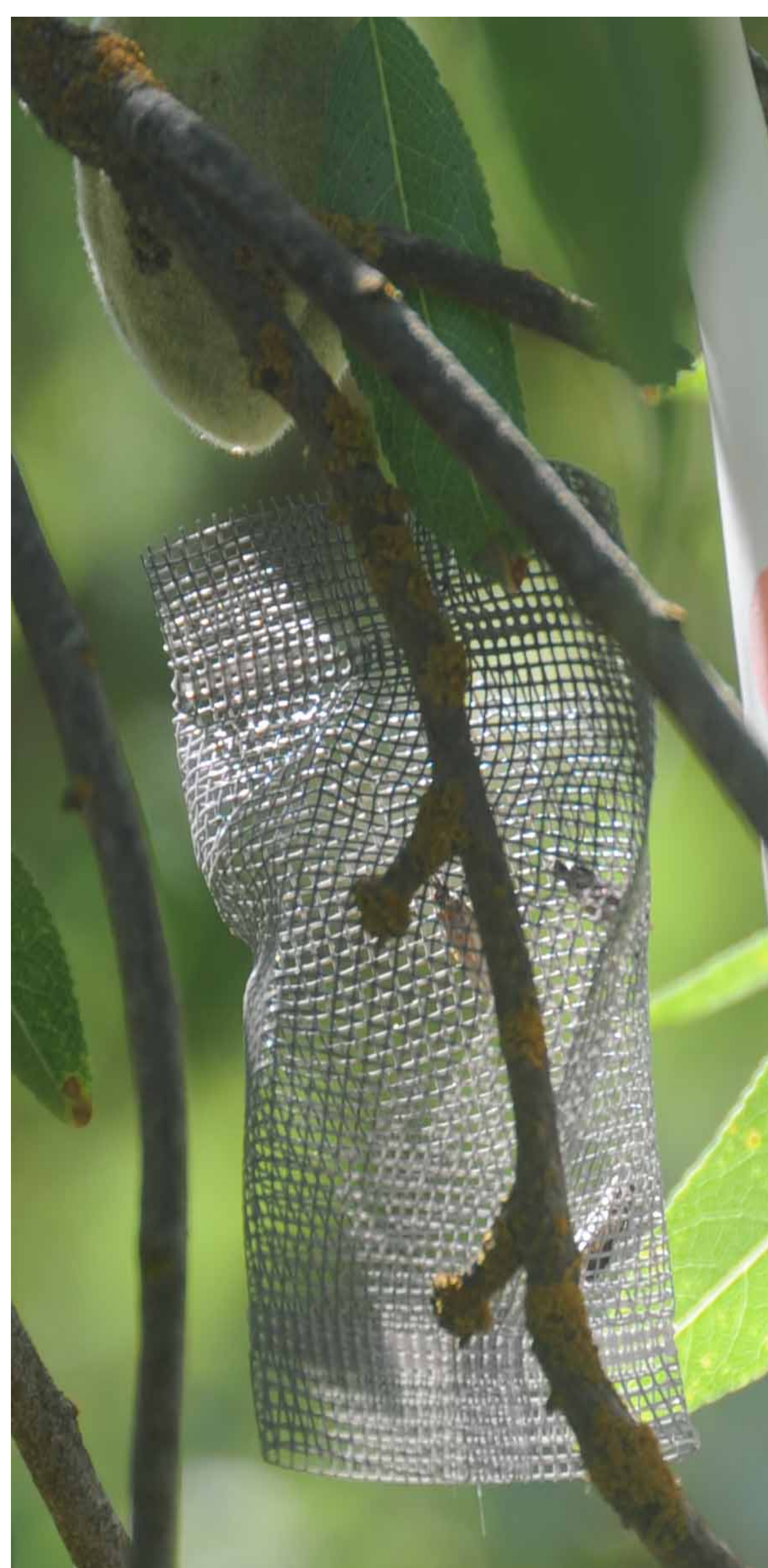


## Introduction

Recently narrow spectrum insecticides (insect growth regulators, anthranilic diamides, spinosids) have been registered for use in almonds and pistachios to control navel orangeworm (NOW) *Amyelois transitella*. Our interest is evaluation of activity against all life stages of NOW, duration of control and spray coverage. In this poster we report adult activity. Insecticide trials were conducted in Fresno and Madera counties, in consultation and cooperation with Alistair McKay, Barat Bisabri (Dow Agrosciences), Gary Weinberger and Todd Fukoda (Weinberger, Fukoda and Associates), Jeff Pacheco and Terri Thomas (DuPont). Adult toxicity was determined by placing bagged adults (3 per bag) in trees immediately before insecticide application and removing them 24 hours later for observation. Adult survival was evaluated 24-120 hours after exposure. Additional studies were conducted on the efficacy of a new product Intrepid Edge® as well as Intrepid® and Altacor® in aggressive navel orangeworm control programs in Nonpareil almond orchards in Fresno County.

## Objectives

1. Determine adult activity of selective insecticides
  2. Determine efficacy in Nonpareil almonds
- Three adults in netting bag before spray exposure



## Results

**Table 1. Adult activity of Intrepid Edge and Altacor, June 6, Latron B-1956 at 3.2 oz/100 gal, 200 gpa, 2 mph**

Treatment	Time	Mortality	Adults
<b>Control</b>	24	1.40%	70
	<b>96</b>	<b>8.60%</b>	
<b>Intrepid Edge 12 oz/ac</b>	24	23.00%	73
	<b>96</b>	<b>84.00%</b>	
<b>Intrepid Edge 10 oz/ac</b>	24	4.00%	68
	<b>96</b>	<b>71.00%</b>	
<b>Altacor 4 oz/ac</b>	24	7.00%	71
	<b>96</b>	<b>49.00%</b>	

**Table 2. Adult activity of Intrepid Edge and Altacor, June 21, 200 gpa, 2 mph, PHT oil at 1.5%**

Treatment	Time	Mortality	Adults
<b>Control</b>	24	5.10%	98
	<b>72</b>	<b>15.31%</b>	
<b>Intrepid Edge 12 oz/ac Premix</b>	24	85.29%	102
	<b>72</b>	<b>100.00%</b>	
<b>Intrepid Edge Tank mix 10 oz/ac</b>	24	66.67%	126
	<b>72</b>	<b>96.03%</b>	
<b>Altacor 4 oz/ac</b>	24	83.87%	93
	<b>72</b>	<b>91.40%</b>	

## Dose and Adjuvant Concentration Matter

**Table 3. Alatacor at 3.5 and 4.5 oz/ac, June 12, Latron B-1956 at 2.0 oz/100 gal, 2 mph, 200 gpa**

Treatment	Time	Mortality	Adults
<b>Control</b>	24	1.40%	96
	<b>96</b>	<b>6.25%</b>	
<b>Altacor 3.5 oz/ac</b>	24	11.46%	96
	<b>96</b>	<b>14.58%</b>	
<b>Altacor 4.5 oz/ac</b>	24	24.44%	68
	<b>96</b>	<b>42.22%</b>	

**Table 4. Nonpareil damage, 3 trials**

Treatment	Percent Infestation	Nuts
<b>Altacor 4 oz/ac</b>	0.62	2,723
<b>Intrepid Edge 12 oz/ac</b>	0.29	5,818
<b>Intrepid 20 oz/ac</b>	0.20	3,559
<b>Altacor 4.5 oz/ac</b>	0.29	2,407
<b>Intrepid Edge 14 oz/ac</b>	0.31	2,935
<b>Bifenthrin 12.5 oz/ac</b>	0.09	1,151
<b>Altacor 4.0 oz/ac</b>	0.35	852
<b>Intrepid Edge 12 oz/ac</b>	0.38	1,051