

Chemical Controls/New Products

EFFICACY OF ECOZIN (AZADIRACHTIN) + OIL AGAINST OBLIQUEBANDED LEAFROLLER

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Six combinations of leafroller/leafminer products with or without Ecozin (3% EC) + 0.5% JMS Stylet-oil were applied by airblast sprayer on two year old Red Delicious apples for control of obliquebanded leafroller (*Choristoneura rosaceana*) (OBLR). Treatments and application dates are shown below:

Table 1. Treatment rates and application dates.

Treatment	Rate per acre	Date(s) Applied
Dipel 2X	2 lb/A	26 Apr, 20 May, 24 Jun, 12 Jul, 17 Aug, 31 Aug
Agri-mek + JMS Stylet-oil	10 fl oz/A-0.5%	26 Apr
Comply 40 WP	4 oz/A	26 Apr 1998 10 May 1998
Ecozin 3% EC + JMS Stylet-oil	10 fl oz/A 0.5% oil	24 Jun, 12 Jul, 17 Aug, 31 Aug
Dipel 2X + Ecozin 3% EC + JMS Stylet-oil	2 lb/A 10 fl oz/A 0.5%	26 Apr, 20 May, 24 Jun, 12 Jul, 17 Aug, 31 Aug
Ecozin 3% EC + JMS Stylet-oil	10 fl oz/A 0.5%	26 Apr, 20 May, 24 Jun, 12 Jul, 17 Aug, 31 Aug
Neemix 4.5 + JMS Stylet-oil	6.67 fl oz/A 0.5%	26 Apr, 20 May, 24 Jun, 12 Jul, 17 Aug, 31 Aug
Success + JMS Stylet-oil	6 fl oz/0.5%	26 Apr 20 May
Success Ecozin 3% EC + JMS Stylet-oil		24 Jun, 12 Jul, 17 Aug, 31 Aug
Untreated check	---	---

Overwintering leafroller numbers were low but by the summer generation larval numbers averaged over 12 larvae per tree in the four untreated check replicates. As shown in Table 2, over the course of the season the Dipel + Ecozin + oil combination performed the best overall against OBLR, with Success + Ecozin + oil close behind. Dipel by itself, Comply/Ecozin + oil and Ecozin + oil were intermediate in performance, and Neemix + oil the poorest performer against OBLR.

Table 2. Obliquebanded Leafroller levels under various treatment regimes, Milton-Freewater, OR, 1998.

TREATMENTS	Number of Leafrollers / 6 trees per replicate									
	# Larvae 26 Apr	# Larvae 11 May	# Larvae 24 May	# Larvae 23 Jun	# Larvae 12 Jul	# Larvae 26 Jul	# Larvae 30 Aug	# Larvae 15 Sep	# Egg masses	# Larvae 15 Sep
Dipel 2X (6x) + Agri-mek + oil (1x)	2.0 a	2.5 a	1.5 a	0.2 ab	1.5 ab	28.8 ab	5.5 b	3.8 ab		
Comply 40 WP (2x) + Ecozin + oil (4x)	2.5 a	6.0 a	4.5 a	0.2 ab	2.0 ab	17.0 a	10.2 bc	12.0 abc		
Dipel 2X + Ecozin + oil (6x)	1.8 a	0.8 a	0.0 a	0.0 a	0.5 a	4.0 a	1.8 a	2.8 a		
Ecozin + oil (6x)	2.8 a	3.0 a	5.5 a	0.2 ab	5.0 ab	20.2 a	19.2 cd	17.2 bc		
Neemix + oil (6x)	2.2 a	3.0 a	3.5 a	1.8 c	11.2 bc	76.0 b	24.0 cd	21.2 c		
Success (2x) + oil (1x) + Ecozin + oil (4x)	2.0 a	0.2 a	0.0 a	0.2 ab	0.2 a	2.2 a	5.8 b	6.8 ab		
Untreated	2.0 a	2.0 a	2.5 a	1.2 bc	16.8 c	73.7 b	34.5 d	40.8 d		

Means in the same column followed by the same letter not significantly different ($p=0.05$, Fisher's Protected LSD).

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Pesticides Used in Trial:

<u>TRADE NAME</u>	<u>COMMON NAME</u>
Agri-mek (Novartis)	Abamectin
Comply (Novartis)	Fenoxycarb
Dipel 2X (Abbott)	<i>Bacillus thuringiensis</i>
Ecozin (AMVAC)	Azadirachtin
Neemix (W. R. Grace)	Azadirachtin
Success (Dow)	Spinosad