

Implementation Programs

Brewster Areawide Management of Obliquebanded Leafroller and Codling Moth: Year 2

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The Brewster Dual Areawide Management (BDAM) is the only western areawide project that has implemented wide scale adoption of sex pheromones for mating disruption of both codling moth and leafrollers. The BDAM project began in 1998 and consists of 14 growers managing ca. 500 acres of apple. The project is contiguous with another 1,500 acres of orchard under a single ownership that is also using MD for codling moth and leafrollers and data for the entire 2,000 acres have been summarized since 1997. BDAM is situated within the 4,000 acre BAM project. Growers within BAM are using Isomate-C+ for codling moth.

Results from the original BDAM site were compared with the 1,000 acres within the BAM areawide project that is only treated with Isomate-C+ for codling moth (Tables 1 and 2). Moth catch of OBLR was 92% lower in BDAM than BAM orchards during 1999. Catch of codling moth was similar in both sites. In general, moth counts were lower for OBLR in BAM this year and declined 50% in BDAM since 1998. Mean fruit injury by codling moth remained <0.1% in both sites and was lower in BDAM than BAM for the second year in a row. Fruit injury from OBLR increased in both BAM and BDAM orchards from 1998 to 1999. Similar to 1998, fruit injury was 40% lower in BDAM than BAM orchards in 1999. Insecticide use in BDAM and BAM orchards was similar with respect to OP and Success (spinosid) use in the spring and summer (Table 2). However, BDAM orchards received fewer applications of *Bacillus thuringiensis* than BAM orchards. In general, insecticide use was reduced in all orchards from 1998 to 1999, perhaps due to the poor economic situation for growers. This reduction in insecticide use probably contributed to the increase in OBLR injury.

Table 1. Comparison of moth catch and fruit injury of codling moth and obliquebanded leafroller in the original BDAM project treated with Isomate CM/LR versus the surrounding BAM orchards treated with only Isomate C+.

Study/Year	Treatment	Mean moth catch per trap		Mean percent fruit injury	
		CM	OBLR	CM	OBLR
BDAM 1999	Isomate CM/LR	1.77	2.51	0.01	0.88
BDAM 1998	Isomate CM/LR	2.82	5.42	0.03	0.34
BDAM 1997	Isomate C+	1.38	21.13	0.07	1.24
BAM 1999	Isomate C+	2.29	32.23	0.08	1.37
BAM 1998	Isomate C+	4.21	46.39	0.08	0.71
BAM 1997	Isomate C+	3.00	46.03	0.09	1.15

Table 2. Comparison of insecticide use for codling moth and obliquebanded leafroller in the original BDAM project treated with Isomate CM/LR versus the surrounding BAM orchards treated with only Isomate C+.

Study/Year	The mean number of insecticide sprays applied during the season						
	OBLR Spring			OBLR Summer			CM
	OPs	Success	Bt's	OPs	Success	Bt's	OPs
BDAM 1999	0.60	0.26	0.17	0.26	0	0.34	0.28
BDAM 1998	0.78	0.38	0.78	0.05	.04	0.70	0.69
BDAM 1997	0.78	0	0.65	0.05	0	1.30	1.40
BAM 1999	0.54	0.33	0.75	0	0.20	0.64	0.33
BAM 1998	0.72	0.32	0.87	0.01	0.20	1.29	0.72
BAM 1997	0.92	0	0.69	0.11	0.01	1.27	1.32