

7. Mating Disruption/SIR

CONTROL OF OBLIQUE-BANDED LEAFROLLER IN CODLING MOTH MATING DISRUPTION ORCHARDS

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Oblique-banded leafroller (OBLR) (*Choristoneura rosaceana* (Harris)) has been the main secondary pest problem in three years of utilizing the Shorey "puffer" for codling moth mating disruption in Lake County. In 1996, the first year of the program, OBLR damage averaged 12% in puffer-only plots (range 2.5 - 21%). In 1997, in the same plots, pre-bloom chlorpyrifos (Lorsban[®], DowElanco) was applied to half of each puffer-only plot, and OBLR pheromone added to the puffer dispenser. Harvest damage in the puffer-only plots again averaged 11% (range 0.1 - 28%), while damage in the chlorpyrifos-treated puffer plots was reduced about 50% (range 0 - 9%). It was concluded that 1) pre-bloom chlorpyrifos could reduce final harvest damage by about half in high pressure blocks, and 2) the OBLR pheromone available that year was ineffective.

In 1998, all but one of the original puffer-only plots were doubled in size and all were treated with pre-bloom chlorpyrifos. During the growing season, one-third of each plot received one 9 oz. application of tebufenozide (Confirm[®], Rohm and Haas Co.) at 400 OBLR °D (June 22-26). One third of each plot received a second tebufenozide application two weeks later at 700 OBLR °D (July 6-10) (Figure 1). OBLR damage at harvest averaged 3.6% in pre-bloom chlorpyrifos-only plots (range 1.4 - 9%), 4.4% in chlorpyrifos + 400° D tebufenozide plots (range 0.7 - 10.4%) and 1.5% in chlorpyrifos + 400° D + 700° D tebufenozide plots. Damage in puffer plus organophosphate areas averaged 1.0% (Tables 1 and 2). Although plot variability precluded statistical significance, it appears that for 1998, 1) the 400° D timing appeared ineffective over pre-bloom chlorpyrifos alone, and 2) the 700° D tebufenozide application was critical in reducing OBLR damage at harvest. In 1999, testing will be repeated to learn whether one application at the later timing can achieve adequate control. This is also necessary because the late unusually season may have resulted in atypical results compared to a "normal" phenological year.

Figure 1

1998 'Puffer' Trial, Lake County, CA OBLR Catches

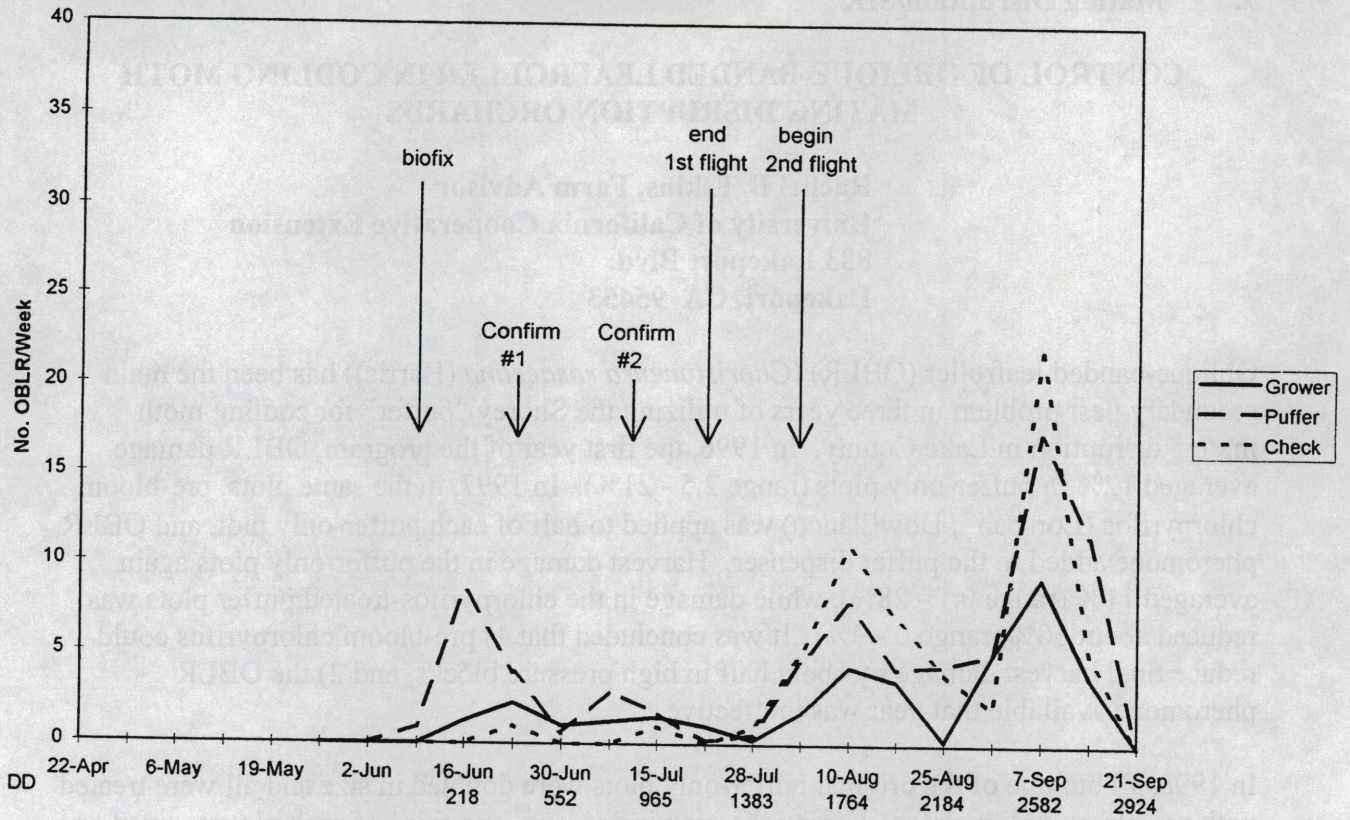


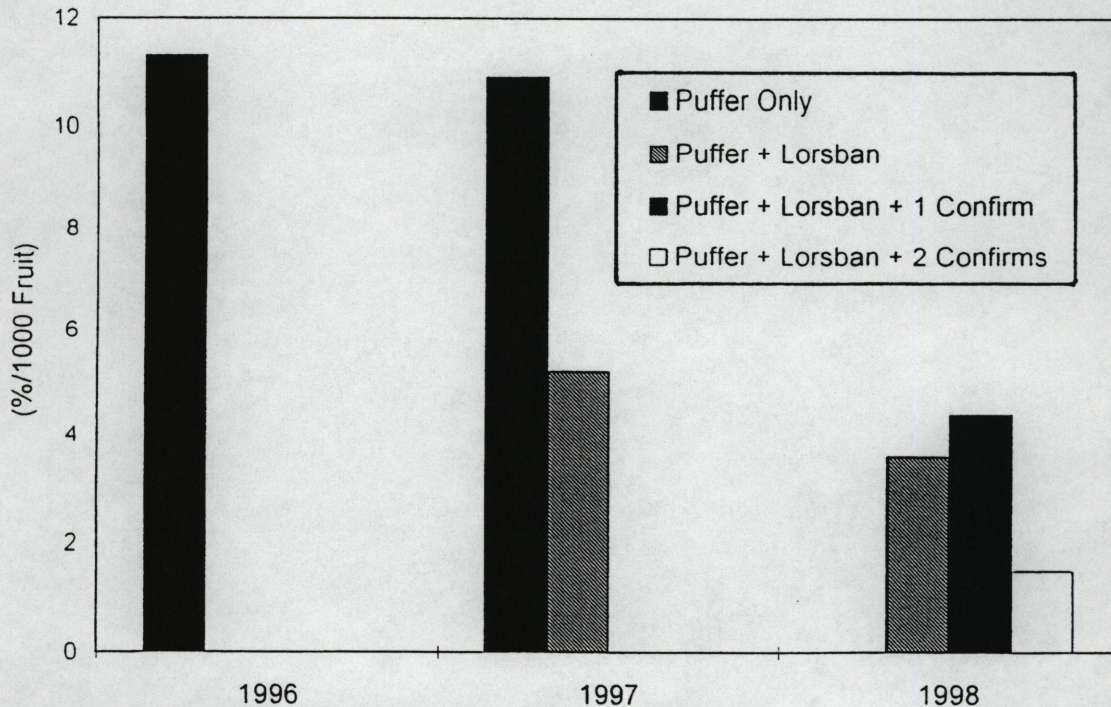
Table 1

2ND GENERATION OBLR DAMAGE
 Bartlett pears, Lake County, September 1998
 Bin Counts (%/1000 fruit)

PLOT	PUFFER ONLY			PUFFER+ LORSBAN			PUFFER+ LORSBAN + CONFIRM 400 °D			PUFFER+ LORSBAN+ CONFIRM 400 & 700 °D			PUFFER + OP		
	1st	2nd	Total	1st	2nd	Total	1st	2nd	Total	1st	2nd	Total	1st	2nd	Total
PUFFER															
S. Timothy				0.5	0.9	1.4				0.8	0.4	1.2	0.2	0.0	0.2
M. Timothy	0.9	0.0	0.9										1.0	0.0	1.0
Y. Cookson				0.0	1.4	1.4	0.0	0.7	0.7	0.0	1.1	1.1	0.0	0.7	0.7
E. Home				2.6	6.4	9.0	5.0	5.4	10.4	1.3	1.6	2.9	0.1	1.2	1.3
H. Sanderson				0.0	2.4	2.4	0.0	2.1	2.1	0.0	0.7	0.7	0.0	1.7	1.7
Q. Kelsey Creek	0.0	2.9	2.9												
Average	0.5	1.5	1.9	0.8	2.8	3.6	1.7	2.7	4.4	0.5	1.0	1.5	0.3	0.7	1.0
GROWER (OP only) UNTREATED															
Q. Keithly													0.0	3.0	3.0
Y. Stage													4.0	3.4	7.4
Average													1.3	3.2	5.2

Table 2

2nd Generation OBLR Damage
 Bartlett pears, Lake County, 1996-1998
 Bin Counts (%/1000 fruit)



Confirm applied at 400 and 400 + 700 OBLR Degree Days, late June and mid July.