

(C18)

**GRAPE:** *Vitis vinifera* L., 'Thompson seedless'

## **WESTERN GRAPELEAF SKELETONIZER CONTROL, 2004**

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Western grapeleaf skeletonizer: *Harrisina brillians* Barnes & McDunnough

Western grapeleaf skeletonizer is a defoliating pest of grapes. It is periodically controlled by insecticides when population suppression does not occur naturally by granulosis virus. Historically, insecticides that have been used against this pest, such as *Bt* and cryolite, work best against small larvae. The purpose of this experiment was to evaluate existing and newer insecticides for their effects against large larvae. The experiment was conducted in an established block of table grapes (Thompson seedless) near Mettler, Kern Co., CA. A total of 144 vines were organized into a randomized complete block design with 4 blocks of 8 treatments and an untreated check. Each experimental plot contained four vines. Treatments were applied on 23 Jul with a CO<sub>2</sub> powered backpack sprayer with a two-nozzle boom using 8002 nozzles at 30 psi. Treatments were made to all parts of the vine at 100 gpa. Pre-count and treatment evaluations were made by doing visual counts of live western grapeleaf skeletonizer larvae on the center two vines of the four-vine plots on 22 Jul, 28 Jul, 2 Aug, 6 Aug, 12 Aug and 20 Aug. Data were converted to larvae per vine and analyzed by ANOVA for treatment differences with means separated by Fisher's Protected LSD ( $P \leq 0.05$ ).

Densities of western grapeleaf skeletonizer in the pre-counts ranged from 487 to 923 per vine, and were composed of 3% second instar, 40% third instar, 49% fourth instar, and 7% fifth instar. In the insecticide treatments, Success at both the 4 fl oz and 6 fl oz rates as well as Provado provided the most immediate and best overall control followed by excellent reductions in larvae by Assail and Avaunt. Kryocide also statistically reduced larval density on the vine. By 10 DAT, both rates of Success as well as Assail provided the best numerical control, and all products except for Dipel produced statistically reduced larval densities. By 14 DAT, both rates of Success as well as Assail and Provado resulted in the lowest number of larvae per vine, followed by Avaunt which was statistically inseparable from the best products. Avaunt was also statistically inseparable from the untreated check, as were also Dipel, Intrepid, and Kryocide. By 20 and 28 DAT, there were no significant differences in density of larvae because drops in larval density due to treatments could not be distinguished from drops due to the pupation of live larvae.

Treatment/ formulation	Rate amt product/acre	WGLS larvae per vine					
		precount	5 DAT	10 DAT	14 DAT	20 DAT	28 DAT
Assail 70WP	1.1 oz	874a	62ab	14a	1a	5a	12a
Avaunt 30WDG	6.0 oz	784a	68ab	60a	34ab	27a	17a
Dipel DF	1.0 lb	648a	256d	186b	156c	80a	22a
Intrepid 2F	12.0 fl oz	693a	152bc	72a	131bc	58a	10a
Kryocide	8.0 lb	868a	100ab	69a	146c	62a	20a
Provado 75WP	1.0 oz	536a	38a	39a	9a	24a	10a
Success 2SC	4.0 fl oz	487a	26ab	6a	0a	3a	6a
Success 2SC	6.0 fl oz	923a	54a	4a	0a	10a	18a
Untreated check	---	589a	212cd	186b	118bc	110a	15a

Means in a given column followed by the same letter are not significantly different (Fisher's protected LSD ( $P > 0.05$ )).