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(E43)

PEPPER 'Jalapeno' *Capsicum annuum* (L.), 'Tormenta'

INSECTICIDAL CONTROL OF PEPPER WEEVIL ON 'JALAPENO' PEPPER, 2010

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Pepper weevil: *Anthonomus eugenii* Cano

Pepper weevil can be a devastating pest of all pepper varieties in the southern parts of the USA. Control is difficult because all but the adult stage are cryptic in the fruit, limiting exposure to insecticide sprays. Greenhouse-grown pepper plants were transplanted at the Southwest Florida Research and Education Center in Immokalee Florida on 15- Sep 2010 at 24 inch spacing in 4 single rows 300 ft in length on 6 ft centers and covered with white polyethylene film mulch. Each bed was divided into 9 plots and treatments distributed in an RCB design with 4 replicates. Each plot contained 12 pepper plants with a 12 foot space between plots for a buffer. Approximately 25 % of the N requirement was incorporated into the bed as granular 15-2-15 NPK, with the remainder applied as liquid 7-0-7 injected daily with a Dosetron into the drip irrigation. Foliar insecticide applications were made with a high clearance sprayer operating at 180 psi at 2.3 mph with spray delivered through two vertical booms using yellow Albuz® hollow cone nozzles that applied 10 gpa each. Four nozzles (two on each side) were used for the first two sprays and six nozzles (three on each side) were used for the remaining four.

Dropped fruit was confined to the bed top by 2" x 2" x 8' wooden lathing attached to the edges of the raised beds with ground cloth staples to prevent fruit falling to the ground. On 15, 22, 29 – Nov and 6, 13-Dec, all fallen fruit were collected, counted and removed from the plots. All fruit greater than 2 inches in length was removed from the plants and taken to the lab for further evaluation. Externally damaged and undamaged fruit were separated, counted and weighed. Visibly undamaged fruits up to 25 per plot per sample date were cut longitudinally and inspected for pepper weevil. Percent damaged fruit was used to estimate number of weevil-damaged fruit in each plot. Thus, total number of damaged fruit for each plot was equal to the number of fallen, externally damaged and internally damaged fruit. Marketable fruit was estimated by taking the total number of fruit harvested and subtracting the number damaged. Data is presented on a per plant basis due to loss of some plants to disease.

All treatments reduced the number of damaged fruit per plant compared to the untreated check, but were not significantly different from each other. However, no significant treatment effect was observed in the number of marketable fruit obtained from each plant. (Table 2). This research was supported by industry gift(s) of pesticide and/or research funding.

Table 1

	Product/ Formulation	Rate (product/acre)	26-Oct 40 gpa	3-Nov 40 gpa	10-Nov 60 gpa	17-Nov 60 gpa	24-Nov 60 gpa	2-Dec 60 gpa
1	Untreated check	NA						
2	Actara 25 WG	3.67 oz	x	x	x			
	Vydate 2 L	4 pts				x	x	x
3	Belay 2.13 SC	6.0 oz	x	x	x	x	x	x
4	Requiem 25 EC	2 qts	x	x	x	x	x	x
5	Diatomaceous earth	5 lbs/ac	x	x	x	x	x	x
6	Surround WP	0.5 lbs/gal	x	x	x	x	x	x
7	NAI-2302	21.0 oz	x	x	x	x	x	x
8	Rimon 0.83 EC	12.0 oz	x		x		x	
	Vydate 2 L	4 pts		x		x		x
9	Rimon 0.83 EC	12.0 oz	x		x		x	
	Actara 25 WG	3.67 oz		x		x		x

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Table 2

		Total Number of Fruit Collected from 5 harvests	
Product/ Formulation	Rate (Product/acre)	No. of damaged fruit	No. of Marketable Fruit
Untreated check	NA	18.39a	40.80
Actara 25 WG	3.67 oz	5.52b	53.38
Vydate 2 L	4 pts		
Belay 2.13 SC	6.0 oz	3.34b	69.60
Requiem 25 EC	2 qts	7.14b	50.48
Diatomaceous earth	5 lbs/ac	4.03b	59.29
Surround WP	0.5 lbs/gal	4.95b	50.25
NAI-2302	21.0 oz	7.32b	60.35
Rimon 0.83 EC	12.0 oz	4.01b	65.08
Vydate 2 L	4 pts		
Rimon 0.83 EC	12.0 oz	5.04b	46.15
Actara 25 WG	3.67 oz		

Means within column followed by same letter are not significantly different (LSD, P> 0.05)