

CONTROL OF APHIDS IN BELL PEPPERS WITH OXAMYL THROUGH CHEMIGATION USING A TRICKLE IRRIGATION SYSTEM, 2008

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The experiment was conducted in a Chillum silt loam field (pH = 6.8) at the Rutgers Agricultural Research and Extension Center in Upper Deerfield Township, NJ. Plots consisted of a single row of peppers on raised beds, 25-ft long and 5-ft wide, replicated 4 times in a randomized complete block design. Raised beds were formed with a Kennco Bedmaker (Kennco Equipment Co., Ruskin, FL). Following bedmaking, T-Tape 5/8" o.d. drip irrigation tubing (0.67 gpm/100 ft at 8 psi) and black polyethylene mulch were laid over the beds. 'Paladin' cv. peppers were transplanted on 29 May using a Kennco water wheel transplanter, followed by 0.5"/acre irrigation. All treatments were applied in-line drip using a ½ hp electric pump attached to a 5-outlet header injecting directly into the trickle tube for each plot at a rate of 1.5 gal of solution injected over a period of approximately 10 min, followed by ½ gal clean water rinse, for all 4 reps of each treatment. Trickle treatments were applied on 5 and 20 Aug. To initiate an outbreak in the green peach aphid population, foliar treatments of Pounce 3.2EC (8 oz/a) were applied to all plots with a backpack air-blast sprayer calibrated to deliver 32 gal/acre operated at 2 mph, and were applied on 23 Jun, 1, 7, 15, 18, 21, 23, 28, 31 Jul, 4, 8, 14 and 21 Aug. The numbers of aphids on the undersides of leaves in the upper 2/3 of plant foliage were recorded on 10 leaves per plant on 5 plants (50 leaves total) in the center of each plot on 12, 25 Aug and 2 Sep. Aphids included winged and non-winged green peach aphid (>90%), and melon and potato aphid (<10%).

Fewer numbers of aphids were recorded in all treatments compared with the untreated on 12 and 25 Aug, although this difference was not significant either date. Poor aphid population establishment and development led to variation in the numbers of aphids within treatments and resulted in no significant differences among treatments on any date data was recorded. No phytotoxicity was observed.

Treatment	Rate (oz/a)	# Aphids/25 leaves		
		12 Aug	25 Aug	2 Sep
HGW 20SC	3.5	6.5 ns	5.5 ns	2.5 ns
HGW20SC	5.0	56.3	10.0	0.5
HGW 20SC	7.0	25.8	1.0	1.5
HGW 20SC	10.2	5.8	4.3	3.0
Coragen 1.67 SC	5.0	60.3	8.5	4.3
Vydate L	64.0	4.8	9.3	0.8
Venom 20SG	1.25 lb	70.0	3.5	1.3
Untreated	-----	73.5	33.3	3.5