

Red bell pepper insecticide trial, Ohio, 2014: Preliminary report
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Target: European corn borer (ECB), 2nd generation

Other pests active: fall armyworm (FAW), corn earworm (CEW)

Insects recovered in harvested peppers were: 79 ECB (81%), 5 FAW (5%), 1 CEW (1%), 12 unknown tortricid (12%).

Spray dates (7-day interval): 8/12, 8/19, 8/26, 9/2, 9/9, 9/17, 9/24

Application in 44.9 gal water per acre

Treatments:

Coragen SC: 5 fl oz/acre

Avaunt 30WG: 3.5 oz/acre

Radiant 1SC: 6 fl oz/A, plus NIS 0.25%

IKI-3106 (cyclaniliprole) 50SL: 11 fl oz/acre

IKI-3106 (cyclaniliprole): 16.4 fl oz/acre

IKI-3106 (cyclaniliprole): 22 fl oz/acre

Orthene 97SP: 1 lb/acre

Untreated

(plus 4 treatments that are confidential)

Cumulative harvests #1- #4: means per 20 plants per plot

Treatment	Total yield		Marketable yield		Yield infested or damaged by insects		% of total yield infested or damaged by insects ^a	
	Number	Weight (kg)	Number	Weight (kg)	Number	Weight (kg)	Number	Weight (kg)
Cyclan 16	133.5	32.963	107.5 A	29.025	2.5 C	0.738 BC	1.9% C	2.2% BC
Coragen	125.5	31.438	102.8 AB	28.125	2.0 C	0.462 C	1.6% C	1.6% C
Avaunt	132.2	32.150	98.5 AB	27.113	6.2 B	1.488 B	4.7% B	4.6% B
Cyclan 11	135.5	30.363	106.2 AB	26.463	3.5 C	0.875 BC	2.6% BC	3.0% BC
Radiant	136.5	31.075	98.5 AB	26.313	2.5 C	0.650 C	2.0% C	2.0% C
Cyclan 22	114.0	29.400	92.0 BC	25.950	2.8 C	0.762 BC	2.4% BC	2.6% BC
Orthene	119.5	28.775	93.2 ABC	24.825	3.0 C	0.812 BC	2.3% C	2.6% BC
untreated	117.8	28.900	83.0 C	22.612	13.5 A	3.362 A	11.5% A	11.5% A
<i>P value for treatment effect in ANOVA</i>	<i>0.1351</i>	<i>0.2565</i>	<i>0.0522</i>	<i>0.0822</i>	<i><0.0001</i>	<i><0.0001</i>	<i><0.0001</i>	<i>0.0001</i>

^a Means shown are actual percentage values; ANOVA based on transformed valued.

Harvest #1: 8/25/2014, means per 20 plants

Treatment	Total yield		Marketable yield		Yield infested or damaged by insects		% of total yield infested or damaged by insects ^a	
	Number	Weight (kg)	Number	Weight (kg)	Number	Weight (kg)	Number	Weight (kg)
Avaunt	30.0	6.375	14.8	4.450	0.5	0.150	1.1	1.4
Cyclan 16	25.5	5.463	13.8	4.175	0.0	0.000	0.0	0.0
untreated	22.5	5.400	13.2	4.138	0.8	0.200	3.3	3.7
Radiant	30.0	6.013	14.0	4.025	1.0	0.300	5.5	6.3
Cyclan 22	23.0	5.238	12.8	3.863	1.0	0.250	4.5	4.1
Orthene	18.0	4.288	11.2	3.463	0.5	0.162	3.4	3.9
Cyclan 11	23.0	4.338	10.2	2.900	1.0	0.338	3.6	6.4
Coragen	16.5	3.138	7.2	2.038	1.0	0.288	7.4	10.2
<i>P value for treatment effect in ANOVA</i>	<i>0.31</i>	<i>0.18</i>	<i>0.36</i>	<i>0.27</i>	<i>0.64</i>	<i>0.72</i>	<i>0.40</i>	<i>0.37</i>

^a Means shown are actual percentage values; ANOVA based on transformed valued.

Harvest #2: 9/2/2014, means per 20 plants

Treatment	Total yield		Marketable yield		Yield infested or damaged by insects		% of total yield infested or damaged by insects ^a	
	Number	Weight (kg)	Number	Weight (kg)	Number	Weight (kg)	Number	Weight (kg)
Cyclan 22	50.2	13.125	41.2	11.513	1.2 B	0.350	2.4% BCD	2.7% BCD
Coragen	50.0	12.663	41.2	11.400	0.5 B	0.075	0.7% D	0.5% D
Radiant	48.0	12.000	39.5	10.950	0.5 B	0.125	1.0% CD	1.0% CD
Cyclan 11	51.8	12.288	42.8	10.888	1.2 B	0.312	2.7% BCD	2.7% BCD
untreated	50.8	12.625	37.5	10.113	6.0 A	1.612	11.7% A	11.6% A
Avaunt	45.5	11.675	35.2	9.988	2.8 B	0.662	7.0% AB	6.5% AB
Cyclan 16	44.0	11.088	36.5	9.725	2.0 B	0.612	4.5% ABC	5.6% ABC
Orthene	47.8	10.975	36.8	9.438	1.0 B	0.250	1.7% CD	1.8% CD
<i>P</i> value for treatment effect in ANOVA	0.95	0.93	0.89	0.87	0.0197	0.0766	0.0086	0.0224

^a Means shown are actual percentage values; ANOVA based on transformed valued.

Harvest #3: 9/16/2014, means per 20 plants

Treatment	Total yield		Marketable yield		Yield infested or damaged by insects		% of total yield infested or damaged by insects ^a	
	Number	Weight (kg)	Number	Weight (kg)	Number	Weight (kg)	Number	Weight (kg)
Cyclan 16	35.2	9.263	30.8	8.325	0.5 B	0.125 B	1.4% BC	1.3% B
Coragen	30.8	8.288	26.8	7.375	0.2 B	0.075 B	0.6% C	0.6% B
Avaunt	27.5	7.188	23.5	6.300	1.8 B	0.425 B	6.0% B	5.7% B
Cyclan 22	23.8	6.413	21.5	6.125	0.2 B	0.088 B	0.9% BC	1.1% B
Radiant	33.8	7.538	22.5	5.988	0.8 B	0.212 B	2.5% BC	3.1% B
Cyclan 11	31.2	6.875	24.5	5.925	1.0 B	0.150 B	3.0% BC	1.9% B
Orthene	25.8	6.525	19.2	5.263	0.8 B	0.238 B	3.1% BC	3.7% B
untreated	26.0	6.600	17.8	4.713	4.8 A	1.188 A	18.0% A	18.0% A
<i>P</i> value for treatment effect in ANOVA	0.62	0.61	0.34	0.33	0.0008	0.0005	0.0022	0.0024

^a Means shown are actual percentage values; ANOVA based on transformed valued.

Harvest #4: 9/30/2014, means per 20 plants

Treatment	Total yield		Marketable yield		Yield infested or damaged by insects		% of total yield infested or damaged by insects ^a	
	Number	Weight (kg)	Number	Weight (kg)	Number	Weight (kg)	Number	Weight (kg)
Coragen	28.2	7.350	27.5	7.313	0.2 BC	0.025 BC	0.6%	0.3%
Cyclan 16	28.8	7.150	26.5	6.800	0.0 C	0.000 C	0.0%	0.0%
Cyclan 11	29.5	6.863	28.8	6.750	0.2 BC	0.075 BC	1.2%	1.4%
Orthene	28.0	6.988	26.0	6.663	0.8 BC	0.162 ABC	2.0%	1.6%
Avaunt	29.2	6.913	25.0	6.375	1.2 AB	0.250 AB	4.3%	3.6%
Radiant	24.8	5.525	22.5	5.350	0.2 BC	0.012 BC	0.9%	0.2%
Cyclan 22	17.0	4.625	16.5	4.450	0.2 BC	0.075 BC	1.2%	1.4%
untreated	18.5	4.275	14.5	3.650	2.0 A	0.362 A	8.9%	6.8%
<i>P</i> value for treatment effect in ANOVA	0.19	0.16	0.0759	0.0745	0.0239	0.0521	0.0649	0.0558

^a Means shown are actual percentage values; ANOVA based on transformed valued.

Population trends of European corn borer and corn earworm as detected in traps, Fremont, Ohio, 2014.

Date (end of 7-day period)	European corn borer					Corn earworm: number of adults in pheromone trap
	Number of adults in pheromone trap (males only)	Number of adults in blacklight trap			Generation (estimate)	
		Females	Males	Total		
5/13	-	-	-	-	-	-
5/20	-	0	0	0	-	-
5/27	-	6	2	8	1	-
6/3	-	12	8	20	1	-
6/10	-	11	6	17	1	-
6/17	-	15	10	25	1	-
6/24	0	1	1	2	1	0
7/1	8	3	2	5	1	0
7/8	2	0	2	2	1	0
7/15	5	2	1	3	1	3
7/22	2	1	2	3	1	2
7/29	3	0	0	0	-	1
8/5	1	5	4	9	2	0
8/12	6	10	5	15	2	1
8/19	4	9	7	16	2	1
8/26	18	17	22	39	2	5
9/2	30	4	4	8	2	65
9/19	11	3	6	9	2	25
9/16	0	0	0	0	-	21
9/23	0	0	0	0	-	4
9/30	1	0	0	0	-	0