

Insect Management Reports

2016 Season

University of Delaware
Cooperative Extension -- IPM Program

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Field Crops

Control of Seed Corn Maggot in Field Corn with Seed Treatments

Location	University of Delaware Research and Education Center, Georgetown, DE
Variety	P1602YHR
Planting Date	April 16, 2016
Plant Population	26,000 plants/A
Experimental Design	7 treatments arranged in a RCB design with 4 reps, four rows wide (30-inch centers) x 25 foot long
Treatment Method	Seed treatments were applied by a commercial seed treatment operation
Harvest Date	September 12, 2016

Trt. #	Seed Treatment	Stand Count (# Plants per 50 ft. of row) ¹				
		May 5	May 9	May 16	May 23	May 31
1	VA780, 250 UAT	64.00a	63.50a	63.00a	63.75a	63.25a
2	E2Y45, VA780, 250 UAT, 250 UAT	63.25a	64.00a	63.50a	64.00a	63.76a
3	E2Y45, 250 UAT	63.25a	63.00a	61.50a	63.00a	63.00a
4	E2Y45, 500 UAT	63.50a	62.75a	63.50a	63.75a	65.00a
5	E2Y45, 750 UAT	62.50a	62.00a	63.00a	62.50a	62.25a
6	RUC82, YX860, 600 UAT, 750 UAT	62.75a	62.50a	63.25a	62.25a	62.75a
7	Untreated	61.25a	60.50a	59.75a	59.25a	59.00a
Trt #	Seed Treatment	Percent Seed Corn Maggot Damaged Plants ¹				
		May 5	May 9	May 16	May 23	Yield (BU/A)
1	VA780, 250 UAT	0.38b	0.80a	0.78a	0	198.87a
2	E2Y45, VA780, 250 UAT, 250 UAT	0.00b	1.18a	0.78a	0	196.16a
3	E2Y45, 250 UAT	0.00b	0.40a	1.20a	0	201.16a
4	E2Y45, 500 UAT	0.00b	0.00a	0.40a	0	197.98a
5	E2Y45, 750 UAT	0.00b	0.38a	1.15a	0	196.51a
6	RUC82, YX860, 600 UAT, 750 UAT	0.40b	0.00a	1.55a	0	197.10a
7	Untreated	1.65a	0.83a	1.40a	0	191.60a

¹ Means in the same columns followed by the same letter are not significantly different (Tukey's; P=0.05).

Control of Two Spotted Spider Mite in Soybeans

Location	University of Delaware Research and Education Center, Georgetown, DE
Variety	Dyna-Gro S44LS76
Planting Date	May 26, 2016
Experimental Design	9 treatments arranged in a RCB design with 4 reps, four rows wide (30-inch centers) x 25 foot long
Treatment Method	All foliar treatments applied with a 6-nozzle boom sprayer equipped with 8002 flat fan spray tips spaced 20" apart and powered by a CO ₂ backpack sprayer at 40psi delivering 16.9 GPA.
Foliar Treatment Date	July 27, 2016
Harvest Date	October 17, 2016

Treatment ¹	Rate/Acre	Mites per 20 leaflets ²				Yield BU/A
		Pre- Treatment July 25	5 DAT Aug 1	12 DAT Aug 8	19 DAT Aug 15	
1. Zeal SC	2 fl. oz.	28.75a	5.75a	0.00b	0	61.02a
2. Zeal SC	4 fl. oz.	18.00a	2.50a	0.00b	0	57.99a
3. GWN-10290	15 fl. oz.	12.00a	2.25a	0.75b	0	57.30a
4. GWN- 10385	14 fl. oz.	25.75a	4.50a	0.00b	0	61.63a
5. Agrimek 0.7SC	2.5 fl. oz.	17.50a	0.75a	0.00b	0	57.82a
6. Agrimek 0.7SC	3.5 fl. oz.	16.50a	1.50a	0.00b	0	64.82a
7. Lorsban Advanced	1 pt.	19.00a	6.00a	0.00b	0	64.06a
8. Bifenture 2EC	6.4 fl. oz.	10.50a	5.75a	0.00b	0	58.47a
9. Untreated	-----	7.00a	14.00a	5.50a	0	64.00a

¹ NIS 0.25% (Induce) used with all treatments

² Means in the same columns followed by the same letter are not significantly different (Tukey's; P=0.05).

Control of Thrips in Soybeans with Seed Treatments

Location	University of Delaware Research and Education Center, Georgetown, DE
Variety	Richmond 1442 Roundup Ready2
Planting Date	Planting # 1 - May 25, 2016
Plant Population	Planting # 2 – June 30, 2016 26,000 plants/A
Experimental Design	4 treatments arranged in a RCB design with 4 reps, four rows wide (30-inch centers) x 25 foot long
Treatment Method	Seed treatments were applied by a commercial seed treatment operation
Harvest Date	Planting # 1 – October 21, 2016 Planting # 2 – October 26, 2016

Planting # 1						
Treatment	Rate	Thrips per 20 leaflets ¹			Yield (BU/A)	
		June 20	June 27	July 11		
NIPSIT	22.68 g AI/Cwt	3.00a	3.75a	3.50a	45.02a	
V-10385	3.37 fl. oz./Cwt	4.00a	2.50a	0.25a	40.72a	
Cruiser Maxx Vibrance	3.22 fl. oz./Cwt	2.25a	4.25a	1.00a	35.57a	
Acceleron DX-109	0.8 fl. oz./Cwt	2.75a	2.75a	1.50a	47.01a	
Acceleron DX-309	0.4 fl. oz./Cwt					
Acceleron DX-612	0.24 fl. oz./Cwt					
Acceleron DX-409	2.0 fl. oz./Cwt					

Planting # 2							
Treatment	Rate	Stand Count Plants/3 ft July 11	Thrips per 20 leaflets ¹				Yield (BU/A)
			July 11	July 18	Jul 25	Aug 1	
NIPSIT	22.68 g AI/Cwt	14.42a	10.75a	7.00a	3.25a	3.50b	39.43a
V-10385	3.37 fl. oz./Cwt	14.83a	11.00a	4.25a	3.75a	1.75b	42.05a
Cruiser Maxx Vibrance	3.22 fl. oz./Cwt	16.84a	5.50a	2.00a	12.75a	1.50b	37.69a
Acceleron DX-109	0.8 fl. oz./Cwt	11.84a	10.25a	4.50a	11.00a	8.50a	36.90a
Acceleron DX-309	0.4 fl. oz./Cwt						
Acceleron DX-612	0.24 fl. oz./Cwt						
Acceleron DX-409	2.0 fl. oz./Cwt						

¹ Means in the same columns followed by the same letter are not significantly different (Tukey's: P=0.05).

Control of Slugs in Field Corn

Location	Commercial Farm, Middletown, DE
Variety	Pioneer Variety P1197AM
Planting Date	April 15, 2016
Experimental Design	4 treatments arranged in a RCB design with 4 reps, four rows wide (30-inch centers) x 20 foot long
Treatment Method	All treatments applied as a broadcast application on May 11, 2016 using a hand-held fertilizer spreader.

Treatment	RATE/A	Percent Slug Damage Plants ¹				
		Pre-Trt May 11	2 DAT May 13	5 DAT May 16	8 DAT May 19	16 DAT May 27
Sluggo	44 lb.	100.00a	100.0a	68.58b	79.75b	100.0a
Iron Fist	40 lb.	100.00a	98.90a	66.73b	70.73c	100.0a
Untreated	-----	100.00a	100.0a	99.6a	100.0a	100.0a
Treatment	Rate/A	Stand Count per 40 ft. of Row ¹				
		Pre-Trt May 11	2 DAT May 13	5 DAT May 16	8 DAT May 19	16 DAT May 27
Sluggo	44 lb.	59.5a	61.50a	61.00a	60.0a	50.75a
Iron Fist	40 lb.	62.5a	65.75a	62.75a	64.0a	56.50a
Untreated	-----	64.0a	61.75a	59.25a	42.5b	14.75b

¹ Means in the same columns followed by the same letter are not significantly different (Tukey's; P=0.05).

Control of Slugs in Soybeans

Location	Commercial Farm, Felton, DE
Variety	Asgrow 4135
Planting Date	June 14, 2016
Experimental Design	4 treatments arranged in a RCB design with 4 reps, 10 foot wide x 20 foot long
Treatment Method	All treatments applied as a broadcast application on June 22, 2016 using a hand-held fertilizer spreader

Treatment	Rate/A	Percent Slug Damage Plants ¹		
		2 DAT June 24	6 DAT June 28	9 DAT July 1
Sluggo	44 lb.	31.65a	28.96a	1.79a
Iron Fist	40 lb.	31.56a	29.57a	1.09a
Deadline MPs	10 lb.	25.29a	36.95a	0.95a
Untreated	-----	55.37a	46.68a	2.43a
Treatment	Rate/A	Stand Count per 40 Ft of Row ¹		
		2 DAT June 24	6DAT June 28	9 DAT July 1
Sluggo	44 lb.	96.25a	93.75a	93.75a
Iron Fist	40 lb.	84.75a	88.5a	93.25a
Deadline MPs	10 lb.	102.25a	86.25a	85.25a
Untreated	-----	76.25a	99.5a	100.75a

¹ Means in the same columns followed by the same letter are not significantly different (Tukey's; P=0.05).

Vegetables

Control of Insects on Sweet Corn – Mid- Season

Location	Un of Delaware Research and Education Center, Georgetown, DE
Variety	Xtra-Tender 3473
Planting Date	May 25, 2016
Experimental Design	8 treatments arranged in a RCB design with 4 reps, two rows wide X 25 foot long on 30 inch centers
Treatment Method	All foliar treatments applied with a CO ₂ pressurized backpack sprayer with a single-row boom, equipped with 2 hollow cone nozzles with D2 tips delivering 38.3 GPA at 40psi.
Foliar Treatment Dates	See Treatment Table
Harvest Date	July 25, 2016

Trt #	Treatment	Application Date	Rate/A
1	A,B,C,D Besiege	A- 7/7, B – 7/11, C – 7/15, D- 7/18	7.5 fl. oz.
2	A,B,C - Besiege	A- 7/7, B – 7/11, C – 7/15	10.0 fl. oz.
3	A, B, C – Besiege D,E– Warrior II	A- 7/7, B – 7/11, C – 7/15 D- 7/18., E- 7/21	10.0 fl. oz. 1.92 fl. oz.
4	A,B– Warrior II C,D,E - Blackhawk 36WG	A- 7/7, B – 7/11 C – 7/15, D- 7/18., E- 7/21	1.92 fl. oz. 3.3 oz.
5	A,B– Warrior II C,D,E - Radiant SC	A- 7/7, B – 7/11 C – 7/15, D- 7/18., E- 7/21	1.92 fl. oz. 3.3 oz.
6	A – E Hero EC	A- 7/7, B – 7/11, C – 7/15, D- 7/18., E- 7/21	4.5 fl. oz.
7	A – E -Warrior II	A- 7/7, B – 7/11, C – 7/15, D- 7/18., E- 7/21	1.92 fl. oz.
8	Untreated	-----	-----

Trt #	% Clean Ears (Fresh Market) ¹	% Clean + Tip Damaged Ears (Processing) ¹	Percent Damaged Ears ¹
			Sap Beetles
1	94.38ab	100.00a	5.63ab
2	92.50ab	100.00a	7.50ab
3	97.50a	100.00a	2.50b
4	95.63ab	100.00a	4.38ab
5	85.63b	100.00a	14.38a
6	93.75ab	99.38a	6.25ab
7	94.38ab	100.0a	5.63ab
8	85.63b	98.75a	14.38a

¹Means in the same columns followed by the same letter are not significantly different (Tukey's; P=0.05).

Control of Insects on Sweet Corn – Late Season

Location	Un of Delaware Research and Education Center, Georgetown, DE
Variety	Xtra Tender 3473
Planting Date	June 30, 2016
Experimental Design	7 treatments arranged in a RCB design with 4 reps, two rows wide X 25 foot long on 30 inch centers
Treatment Method	All foliar treatments applied with a CO ₂ pressurized backpack sprayer with a single-row boom, equipped with 2 hollow cone nozzles with D2 tips delivering 38.3 GPA at 40psi.
Foliar Treatment Dates	See Treatment Table
Harvest Date	Aug 22, 2015

1	A,B,C – Besiege D,E - Lannate LV + Warrior	A – 8/4, B-8/8, C- 8/11 D- 8/15, E- 8/18	10 fl. oz. 24 fl. oz. + 1.92 fl. oz.
2	A,B,C – Besiege D, E – Warrior II	A – 8/4, B-8/8, C- 8/11 D- 8/15, E- 8/18	10 fl. oz. 1.92 fl. oz.
3	A, B, C – Hero EC ,D,E –Blackhawk 36WG	A – 8/4, B-8/8, C- 8/11 D- 8/15, E- 8/18	6.4 fl. oz. 3.3 oz.
4	A,B, C – Hero EC D,E – Radiant SC	A – 8/4, B-8/8, C- 8/11 D- 8/15, E- 8/18	6.4 fl. oz. 6 fl. oz.
5	A- E– Hero EC	A – 8/4 B-8/8, C- 8/11, D- 8/15, E- 8/18	4.5 fl. oz.
6	A- E - Warrior II	A – 8/4 B-8/8, C- 8/11, D- 8/15, E- 8/18	1.92 fl. oz.
7	Untreated	-----	-----
Trt #	% Clean Ears (Fresh Market) ¹	% Clean + Tip Damaged Ears (Processing) ¹	Percent Corn Earworm Damaged Ears ¹
1	96.67a	99.17a	3.33b
2	94.17a	98.33a	5.83b
3	84.17a	86.67a	15.83b
4	85.84a	86.67a	14.17b
5	87.50a	88.33a	12.50b
6	88.33a	90.00a	11.67b
7	45.00b	47.50b	55.00a

¹Means in the same columns followed by the same letter are not significantly different (Tukey's; P=0.05).