Imidacloprid Seed Treatment for Aphid Control in Winter Wheat - Chemtura

Trial ID: 11-ARC-20-N50 Location: Agronomy Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu
City State Zip Country: Carbondale IL 62901 USA
Trial Status: FINAL **Initiation Date:** 10-12-10

Objectives: Evaluate the effectiveness of Higher rates of imidacloprid to control aphids when combined with Ipconazole-Metalaxyl.

Crop 1: TRZAW Winter wheat **Variety:** FS 610
Planting Method: SEEDED **Planting Date:** 10-12-10
Rate, Unit: 1.3 mil. S/A **Depth, Unit:** 1 IN
Row Spacing, Unit: 7.5 IN
Soil Moisture: DRY

Pest 1 Type: W **Code:** NA

Plot Width, Unit: 5 FT **Site Type:** FIELD
Plot Length, Unit: 24 FT **Tillage Type:** REDUCED-TILL
Replications: 4 **Study Design:** Randomized Complete Block

	Prior Crops	Year
1.	ZEAMD	2010

Field Prep./Maintenance: Fall: N 27 LB/A, P2O5 69 LB/A, K2O 0 LB/A as DAP
Spring: N 95 LB/A, P2O5 0 LB/A, K2O 0 LB/A as 32% UAN

% OM: 1.9 **Texture:** SILT LOAM
pH: 6.4 **Soil Name:** STOY
CEC: 8.2 **Fert. Level:** P1: 58 LB/A, K: 262 LB/A

Application Description

	A
Application Date:	10-12-10
Application Method:	SEEDTRT
Application Timing:	AT PLANT
Application Placement:	SEED
	12-10-10
Crop stage at application:	NA

Pest Stage At Each Application

Application Date:	10-12-10
Weed Code:	NA

Application Equipment

Appl. Equipment:	PLANTER

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	TRZAW 6-16-11 Moisture Percent	TRZAW 6-16-11 Test wt. lb/bu	TRZAW 6-16-11 Yield bu/A	TRZAW 10-27-10 Vigor 7 DAE	TRZAW 10-27-10 Plants 1 sqft 7 DAE	TRZAW 11-9-10 Vigor 0-9 28 DAP	TRZAW 11-9-10 Emergence 0-9 28 DAP
1	NONTREATED									14.2 a	53.6 a	83 b	6.5 a	23.0 a	7.0 a	7.5 a
2	RANCONA PINNACLE		MD			325	ml/100 kg	SEEDTRT	A	14.3 a	53.3 a	86 b	6.8 a	23.4 a	6.8 a	7.0 a
3	DIVIDEND EXTREME		FS			130	ml/100 kg	SEEDTRT	A	14.7 a	55.0 a	97 a	6.5 a	23.7 a	7.0 a	7.3 a
3	CRUISER 5 FS		LS			53	ml/100 kg	SEEDTRT	A							
4	RANCONA CREST		FL			325	ml/100 kg	SEEDTRT	A	14.6 a	54.0 a	98 a	6.3 a	22.4 a	7.0 a	7.3 a
5	DIVIDEND EXTREME		FS			130	ml/100 kg	SEEDTRT	A	14.3 a	53.3 a	90 b	7.0 a	23.1 a	7.0 a	6.8 a
LSD (P=.05)										0.68	3.00	6.8	1.34	5.08	0.91	1.15
Replicate F										0.168	0.779	6.242	5.451	5.870	4.333	2.716
Replicate Prob(F)										0.9156	0.5283	0.0085	0.0134	0.0105	0.0275	0.0913
Treatment F										1.037	0.502	8.900	0.429	0.083	0.143	0.582
Treatment Prob(F)										0.4281	0.7351	0.0014	0.7854	0.9862	0.9628	0.6815

Means followed by same letter do not significantly differ (P=.05, LSD)

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
Pest Code												APHIDS	APHIDS	APHIDS	
Crop Code										TRZAW	TRZAW				TRZAW
Rating Date										3-3-11	3-3-11	3-3-11	3-17-11	4-18-11	4-18-11
Rating Data Type										Vigor	Emergence	Number	Number	Number	Height
Rating Unit										0-9	0-9	1 ft row	1 ft row	1 ft row	Inch
Rating Timing															
Trt-Eval Interval										0 DA-green	0 DA-green	0 DA-green	14 DA-green	46 DA-green	46 DA-green
1	NONTREATED									7.5 a	7.0 a	0 a	0 a	130 a	34.3 a
2	RANCONA PINNACLE		MD			325	ml/100 kg	SEEDTRT	A	7.5 a	7.3 a	0 a	0 a	104 a	34.3 a
3	DIVIDEND EXTREME		FS			130	ml/100 kg	SEEDTRT	A	8.0 a	7.5 a	0 a	0 a	35 b	33.8 a
3	CRUISER 5 FS		LS			53	ml/100 kg	SEEDTRT	A						
4	RANCONA CREST		FL			325	ml/100 kg	SEEDTRT	A	7.8 a	7.8 a	0 a	0 a	31 b	34.3 a
5	DIVIDEND EXTREME		FS			130	ml/100 kg	SEEDTRT	A	7.5 a	7.0 a	0 a	0 a	92 a	34.3 a
LSD (P=.05)										0.69	1.00	0.0	0.0	54.9	0.63
Replicate F										5.583	2.667	0.000	0.000	0.932	3.500
Replicate Prob(F)										0.0124	0.0951	1.0000	1.0000	0.4553	0.0496
Treatment F										1.000	1.000	0.000	0.000	5.975	1.200
Treatment Prob(F)										0.4449	0.4449	1.0000	1.0000	0.0070	0.3605

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Pest Code	
Crop Code	TRZAW
Rating Date	4-18-11
Rating Data Type	BYD
Rating Unit	Percent
Rating Timing	
Trt-Eval Interval	46 DA-green

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	
1	NONTREATED									0 a
2	RANCONA PINNACLE		MD		325	ml/100 kg	SEEDTRT	A		0 a
3	DIVIDEND EXTREME		FS		130	ml/100 kg	SEEDTRT	A		0 a
3	CRUISER 5 FS		LS		53	ml/100 kg	SEEDTRT	A		
4	RANCONA CREST		FL		325	ml/100 kg	SEEDTRT	A		0 a
5	DIVIDEND EXTREME		FS		130	ml/100 kg	SEEDTRT	A		0 a

LSD (P=.05)	0.0
Replicate F	0.000
Replicate Prob(F)	1.0000
Treatment F	0.000
Treatment Prob(F)	1.0000

Means followed by same letter do not significantly differ (P=.05, LSD)

Trial Comments

1. Protocol - Chemtura
2. Ratings:
   - Plant counts and visual vigor within 7 days of emergence, count (3) 19.2 inch of row.
   - Visual emergence and vigor at 21-28 DAP and again at spring greenup.
   - Scout for aphids in fall and spring, if aphids are present count aphids/plant as (3) sets of 10 plants.
   - If heavy aphid pressure, count twice in the fall and at least once in the spring.
   - If heavy aphid pressure in late spring, make only visual estimations of aphid infestation.
3. Yield.
4. Blanket fertilizer application at planting and early spring.
5. Spring application of Harmony XP (0.5 oz/A) plus NIS (0.25% v/v) was applied to all plots on 4-11-11.
6. Crop emerged on 10-20-10.
7. DAE = Days after crop emergence. DAP = Days after planting. DA-green = Days after spring greenup.
   BYD = Barley yellow dwarf.
   For plant counts 1 sqft = average number of wheat plants per 1 square foot (19.2 inch of a row at 7.5 inch row spacing, average of 3 counts per plot).
   For aphid counts 1 ft row = average number of aphids per 1 ft of crop row (7.5 inch row spacing, average of 3 counts per plot).
   For vigor and emergence 0-9 scale, 0 = poor, 9 = excellent.
7. Harvested 6-16-11, (6) 7.5 inch rows by 20 ft.