

Imidacloprid Seed Treatment for Aphid Control in Winter Wheat - Chemtura

Trial ID: 10-ARC-N8-M30

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:** 10-20-09

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

Crop 1: TRZAW Winter wheat **Variety:** P25R62
Planting Method: SEEDED **Planting Date:** 10-21-09
Rate, Unit: 1.3 mil. S/A **Depth, Unit:** 1 IN
Row Spacing, Unit: 7.5 IN
Plot Width, Unit: 5 FT **Site Type:** FIELD
Plot Length, Unit: 24 FT **Tillage Type:** NO-TILL
Replications: 4 **Study Design:** Randomized Complete Block

Prior Crops, Year
 1. ZEAMD 2009

Field Prep./Maintenance: Fall: N 27 LB/A, P205 69 LB/A, K20 0 LB/A as DAP
 Spring: N 95 LB/A, P205 0 LB/A, K20 0 LB/A as 32% UAN

% OM: 2.1 **Texture:** SILT LOAM
pH: 6.4 **Soil Name:** WEIR
CEC: 7.6 **Fert. Level:** P1: 48 LB/A, K: 188 LB/A

Application Description

Application Date: 10-21-09
Application Timing: SEEDTRT

Crop stage at application: 10-21-09
 NA

Pest Stage At Each Application

Application Date: 10-21-09
Stage Majority (leaves): NA

Application Equipment

Appl. Equipment: SEEDTRT

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Pest Code		TRZAW		TRZAW		TRZAW		TRZAW		TRZAW		TRZAW	
Crop Code		06-21-10		06-21-10		06-21-10		11-11-09		11-11-09		11-20-09	
Rating Date		Moisture		Test wt.		Yield		Vigor		Plants		Emergence	
Rating Data Type		Percent		lb/bu		bu/A		1-9		1 sqft		%Plants	
Rating Unit								FK1		FK1		FK1	
Rating Timing								7 DAE		7 DAE		28 DAP	
Trt-Eval Interval													
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Other Rate	Other Rate Unit	Growth Stage	Appl Code					
1	NONTREATED								9.7 ab	45.3 a	59 c	6.8 a	26.0 a
2	RANCONA PINNACLE	MD		325	ml/100 kg	SEEDTRT A			9.8 ab	45.6 a	63 abc	6.8 a	23.5 a
3	DIVIDEND XL RTA	FL		325	ml/100 kg	SEEDTRT A			10.1 a	46.0 a	67 ab	6.8 a	25.0 a
3	CRUISER 5 FS	LS		53	ml/100 kg	SEEDTRT A						87 b	6.8 a
4	RANCONA CREST	FL		325	ml/100 kg	SEEDTRT A			9.7 ab	45.1 a	68 a	6.8 a	22.5 a
5	GAUCHO XT	LS		220	ml/100 kg	SEEDTRT A			9.4 b	44.6 a	64 abc	7.0 a	23.8 a
6	ENHANCE AW	D		250	g ai/100 kg	SEEDTRT A			9.3 b	45.1 a	60 c	6.5 a	23.0 a
7	DIVIDEND XL RTA	FL		325	ml/100 kg	SEEDTRT A			9.5 b	44.5 a	60 bc	6.5 a	22.6 a
LSD (P=.05)									0.55	3.05	6.7	1.22	3.77
Replicate F									5.650	1.288	10.277	0.424	4.787
Replicate Prob(F)									0.0066	0.3088	0.0004	0.7384	0.0127
Treatment F									1.849	0.279	2.456	0.176	1.055
Treatment Prob(F)									0.1458	0.9394	0.0651	0.9798	0.4239

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

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Pest Code	Crop Code	Rating Date	Rating Data Type	Rating Unit	Rating Timing	Trt-Eval Interval	Trt No.	Treatment Name	Form Conc	Form Type	Rate	Other Rate Unit	Other Rate Unit	Growth Stage	Appl Code	TRZAW 03-22-10 Emergence %Plants FK2 SGU	TRZAW 03-22-10 Vigor 1-9 FK2 SGU	APHIDS TRZAW 04-21-10 Count 10plants FK8	TRZAW 06-14-10 Height inch FK11.4 EOS
1								NONTREATED								87 b	6.8 a	56 ab	31.3 a
2								RANCONA PINNACLE	MD			325	ml/100 kg	SEEDTRT A		88 ab	7.0 a	58 ab	31.8 a
3								DIVIDEND XL RTA	FL			325	ml/100 kg	SEEDTRT A		93 a	7.3 a	46 ab	31.6 a
3								CRUISER 5 FS	LS			53	ml/100 kg	SEEDTRT A					
4								RANCONA CREST	FL			325	ml/100 kg	SEEDTRT A		88 ab	6.8 a	61 ab	32.0 a
5								GAUCHO XT	LS			220	ml/100 kg	SEEDTRT A		90 ab	7.3 a	50 ab	31.4 a
6								ENHANCE AW	D			250	g ai/100 kg	SEEDTRT A		92 ab	7.3 a	42 b	31.8 a
7								DIVIDEND XL RTA	FL			325	ml/100 kg	SEEDTRT A		90 ab	6.5 a	66 a	31.0 a
LSD (P=.05)																5.5	1.10	19.9	1.11
Replicate F																3.811	0.591	9.461	0.616
Replicate Prob(F)																0.0282	0.6287	0.0006	0.6136
Treatment F																1.479	0.679	1.568	0.844
Treatment Prob(F)																0.2407	0.6687	0.2133	0.5525

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. Blanket preemergence application of Roundup WeatherMax (32 fl oz/A) was applied on 10-28-09.

The planned postemergence application of Harmony Extra (if needed) was not needed, not applied.

6. All plots scouted for aphids fall and spring, no aphids were found in the fall.

7. Vigor 1 to 9, 9 = best, 1 = dead. Plants 1 sqft = Number of wheat plants per 1 square foot (19.2 by 7.5 inch).

Emergence %Plants = Percent of plot with emerged plants.

Aphid count 10Plants = Number of aphids found on 10 plants (average of 3 subsamples per plot).

DAE = Days after crop emergence. DAP = Days after planting. SGU = Spring greenup. EOS = End of season.

8. Harvested 6-21-10 (6) 7.5 inch rows by 20 ft.