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Evaluation of level of first corn stand removal

Trial ID: 09S-THP-CTC-75 Protocol ID: 09LATECORN1
 Location: Throckmorton Study Director: Paul Marquardt/Melissa Kruger
 Project ID: 09LATECORN1 Investigator: Dr. Mark M. Loux
 Sponsor Contact: Dr. Peter Thomison

General Trial Information

Study Director: Anthony F. Dobbels **Title:** Research Associate
Investigator: Dr. Mark M. Loux

Discipline: H herbicide
Trial Status: E established
Initiation Date: 5/22/09

Trial Location

City: Lafayette
State/Prov.: Indiana
Postal Code: 47909-9049
Country: USA

Personnel

Study Director: Anthony F. Dobbels **Title:** Research Associate
Affiliation: The Ohio State University
Address: 7721 South Charleston Pike
Location: South Charleston OH
Postal Code: 45368 **E-mail:** dobbels.1@osu.edu
Investigator: Dr. Mark M. Loux

Cooperator/Landowner

Cooperator: Throckmorton Purdue Ag Center **Role:** Farm Manager
Organization: Purdue University
Address 1: 8343 US 231 South
City: Lafayette
State/Prov: Indiana
Postal Code: 47909 **E-mail:** jayyoung@purdue.edu
Country: USA United States

Crop Description

Crop 1: ZEAMX Zea mays Corn
Variety: 33W82/DKC 60-18
Description: Non-GMO/RR Mix
BBCH Scale: BCOR **Planting Date:** 5/23/09
Planting Method: DIRDRI direct drilled **Rate, Unit:** 32000 S/A
Depth, Unit: 2 IN
Row Spacing, Unit: 30 IN **Spacing Within Row, Unit:** 6 IN
Seed Bed: MEDIUM medium
Soil Moisture: SLIDRY slightly dry **Emergence Date:** 5/28/09
Harvested Width, Unit: 10 FT **Harvested Length, Unit:** 25 FT

Pest Description

Pest 1 Type: W

Site and Design

Plot Width, Unit: 10 FT **Site Type:** FIELD field
Plot Length, Unit: 30 FT **Experimental Unit:** 1 PLOT plot
Plot Area, Unit: 300 FT2 **Tillage Type:** CONTIL conventional-till
Replications: 4 **Study Design:** RACOB Randomized Complete Block (RCB)

Field Prep./Maintenance:

field cultivation and disc 1 day prior to planting

Soil Description

Description Name: TPAC Field 4B
% OM: 2.9 **Texture:** SIL silt loam
pH: 6.2 **Soil Name:** Toronto-Millbrook
CEC: 13.3

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Application Description					
	A	B	C	D	E
Application Date:	5/22/09	6/9/09	6/17/09	6/17/09	7/10/09
Time of Day:	5:00	9:45 AM	8:30 AM	8:30 AM	8:25 AM
Application Method:	SPRAY	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing:	PREPLA1	PREPLA2	ATPLAN	2DAP	3 WK AP
Application Placement:	BROSOI	BANT	BROFOL	BROFOL	BROFOL
Applied By:	PM	RH	PM	PM	PM
Air Temperature, Unit:	88 F	71 F	75 F	75 F	74 F
% Relative Humidity:	23.3	70	70	70	86
Wind Velocity, Unit:	1.1 MPH	1 MPH	9 MPH	9 MPH	3 MPH
Wind Direction:	W		SW	SW	SE
Dew Presence (Y/N):	N no	Y yes	Y yes	Y yes	Y yes
Soil Temperature, Unit:	72 F	68 F	69 F	69 F	70 F
Soil Moisture:	DRY	MOIST	WET	WET	MOIST
% Cloud Cover:	80	95	75	75	80

Crop Stage At Each Application					
	A	B	C	D	E
Crop 1 Code, BBCH Scale:	ZEAMX BCOR				
Stage Scale Used:	BBCH	BBCH	BBCH	BBCH	BBCH
Stage Majority, Percent:	00 100	V4 100			V6 60
Stage Minimum, Percent:					V5 40
Stage Maximum, Percent:					V6 60
Height, Unit:		7 IN			30 IN
Height Minimum, Maximum:		5			10

Pest Stage At Each Application					
	B	C	D	E	
W	W	W	W		
Stage Majority, Percent:				V8	
Height Minimum, Maximum:				48 60	

Application Equipment					
	A	B	C	D	E
Appl. Equipment:	CO2 Backpack				
Equipment Type:		SPRBAC	SPRBAC	SPRBAC	SPRBAC
Operating Pressure, Unit:	17 psi				
Nozzle Type:	XR11002	FLAT FAN	FLAT FAN	FLAT FAN	FLAT FAN
Nozzle Size:		XR11002	XR11002	XR11002	XR11002
Nozzle Spacing, Unit:	15 IN				
Nozzles/Row:	8	8	8	8	8
Boom Length, Unit:	10 FT				
Boom Height, Unit:	18 IN				
Ground Speed, Unit:	3 MPH				
Carrier:	H2O	H2O	H2O	H2O	H2O
Water Hardness (ppm CaCO3):	Meigs	Meigs	Meigs	Meigs	Meigs
Spray Volume, Unit:	15 GPA	15 gal/ac	15 gal/ac	15 gal/ac	15 gal/ac
Mix Size, Unit:	1.8 L	1.8 liters	1.8 liters	1.8 liters	1.8 liters
Propellant:	CO2	CO2	CO2	CO2	CO2
Tank Mix (Y/N):		N no	N no	N no	N no

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Crop Code	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX	ZEAMX				
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR				
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays				
Crop Name	Corn	Corn	Corn	Corn	Corn	Corn				
Description	18-24" (NEW)	36-50" (OLD)	48-72" (NEW)	36-96" (OLD)	36-96" (OLD)	48-72" (NEW)				
Rating Date	7/8/09	7/8/09	7/31/09	7/31/09	7/31/09	7/31/09				
Rating Type	COUPLA	COUPLA	COUPLA	COUPLA	EFFICI	HEIGHT				
Rating Unit	NUMBER	NUMBER	NUMBER	NUMBER	percent	FT				
Number of Subsamples	1	1	1	1	1	1				
Crop Stage Majority	V4	V6	V10	R1	R1	V10				
Crop Stage Minimum/Maximum			V8 VT	R1 R3	R1 R3	V8 VT				
Assessed By	RH/MH	RH/MH								
Days After First/Last Applic.	47 21	47 21	70 21	70 21	70 21	70 21				
Plant-Eval Interval	46 DP-1	46 DP-1	69 DP-1	69 DP-1	69 DP-1	69 DP-1				
Days After Emergence	41 DE-	41 DE-	64 DE-	64 DE-	64 DE-	64 DE-				
ARM Action Codes										
Number of Decimals										
Trt No.	Treatment Name	Rate	Appl Unit	Code	1	2	3	4	5	6
1	Roundup PowerMax N-PAK AMS	0.77 lb ae/a 5 % v/v	B B		60.3 bc	56.3 a	55.3 ab	51.0 a	0.0 e	4.2563 f
2	Select Max Roundup PowerMax N-PAK AMS	0.0625 lb ai/a 0.77 lb ae/a 5 % v/v	A A A		64.8 bc	0.3 c	63.8 a	0.5 e	100.0 a	6.0250 a
3	Gramoxone Inteon Sencor DF Superb HC	0.625 lb ai/a 0.14 lb ai/a 0.5 % v/v	B B B		65.5 bc	2.0 c	65.0 a	1.3 e	100.0 a	5.9250 ab
4	Ignite N-PAK AMS	0.402 lb ai/a 5 % v/v	B B		67.0 bc	0.3 c	65.8 a	0.0 e	100.0 a	5.9563 ab
5	Ignite N-PAK AMS Ignite N-PAK AMS	0.402 lb ai/a 5 % v/v 0.402 lb ai/a 5 % v/v	B B D D		65.3 bc	0.3 c	62.3 a	0.3 e	99.5 a	5.8125 abc
6	Gramoxone Inteon Superb HC	0.25 lb ai/a 0.5 % v/v	B B		71.3 bc	32.0 b	55.8 ab	41.5 ab	25.0 d	5.3938 a-e
7	Roundup PowerMax N-PAK AMS	0.77 lb ae/a 5 % v/v	B B		57.8 c	31.5 b	47.5 b	41.3 ab	26.3 d	4.9000 e
8	Roundup PowerMax N-PAK AMS Gramoxone Inteon Superb HC	0.77 lb ae/a 5 % v/v 0.25 lb ai/a 0.5 % v/v	B B C C		77.3 ab	15.8 bc	59.3 a	32.3 abc	56.3 bc	6.0313 a
9	Roundup PowerMax N-PAK AMS Ignite N-PAK AMS	0.77 lb ae/a 5 % v/v 0.402 lb ai/a 5 % v/v	B B D D		66.3 bc	31.5 b	63.8 a	35.5 abc	76.3 ab	4.9500 de
10	Roundup PowerMax N-PAK AMS	0.77 lb ae/a 5 % v/v	B B		62.3 bc	23.0 b	57.3 ab	20.3 cd	47.5 cd	5.2563 b-e
11	Roundup PowerMax N-PAK AMS Gramoxone Inteon Superb HC	0.77 lb ae/a 5 % v/v 0.25 lb ai/a 0.5 % v/v	B B C C		86.5 a	18.0 b	66.0 a	14.0 de	78.8 ab	5.6063 a-d
12	Roundup PowerMax N-PAK AMS Ignite N-PAK AMS	0.77 lb ae/a 5 % v/v 0.402 lb ai/a 5 % v/v	B B D D		66.3 bc	24.0 b	65.0 a	23.5 bcd	83.3 a	5.1563 cde
LSD (P=.05)		10.98	10.98	7.86	13.59	19.25	0.47624			
Standard Deviation		7.61	7.61	5.44	9.41	13.33	0.32983			
CV		11.27	38.88	8.99	43.23	20.18	6.06			
Bartlett's X2		21.035	45.31	17.757	56.845	26.431	13.323			
P(Bartlett's X2)		0.033*	0.001*	0.087	0.001*	0.001*	0.273			
Replicate F		5.316	0.350	9.566	1.002	1.452	15.367			
Replicate Prob(F)		0.0042	0.7894	0.0001	0.4043	0.2454	0.0001			
Treatment F		4.180	20.502	4.339	15.588	27.026	11.396			
Treatment Prob(F)		0.0007	0.0001	0.0005	0.0001	0.0001	0.0001			

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)

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Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Crop Code

ZEAMX, BCOR, Zea mays, = US

Rating Type

COUPLA = count - plant / emergence - objective

EFFICI = efficiency

HEIGHT = height

YIELD = yield

Rating Unit

NUMBER = number

FT = foot

LB = pound

BU = bushel

Plant-Eval Interval

46 DP-1 = 1 5/23/09

69 DP-1 = 1 5/23/09

175 DP-1 = 1 5/23/09

ARM Action Codes

TY1 = 3.111428*8*(100-9)/85