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Weed Control in No-Till Corn with Crusher and Harrow

Trial ID: 13NTC2
Protocol ID: 13NTC2
Project ID: HZEAMXRIMTH130, RIM2THI13

Location: WESTERN BRANCH F-10 E Trial Year: 2013
Investigator: Dr. Mark M. Loux
Study Director: Anthony F. Dobbels
Sponsor Contact: James Barrentine, Cheminova

Crop Description

Crop 1: ZEAMX Zea mays
Variety: Seed Consultants SCS11HR21 **BBCH Scale:** BCOR
Description: RR/LL

Planting Date: Apr-27-2013
Planting Method: PLANTD planted
Planting Equipment: FPP Finger Pickup Planter
Emergence Date: May-13-2013

Planting Rate, Unit: 32097 S/A
Depth, Unit: 1.5 IN
Row Spacing, Unit: 30 IN
Soil Temperature, Unit: 54 F
Soil Moisture: SLIWET slightly wet, moist
Seed Bed: MEDTRA medium/trashy

Pest Description

- Pest 1 Type:** W **Code:** STEME *Stellaria media*
Common Name: Common chickweed
- Pest 2 Type:** W **Code:** LAMPU *Lamium purpureum*
Common Name: Purple deadnettel
- Pest 3 Type:** W **Code:** LAMAM *Lamium amplexicaule*
Common Name: Henbit
- Pest 4 Type:** W **Code:** VERAR *Veronica arvensis*
Common Name: Corn speedwell
- Pest 5 Type:** W **Code:** ERYRE *Erysimum repandum*
Common Name: Bushy wallflower
- Pest 6 Type:** W **Code:** ERPSS *Erophila sp.*
Common Name: Whitlowgrass
- Pest 7 Type:** W **Code:** SENGL *Senecio glabellus*
Common Name: Cressleaf groundsel
- Pest 8 Type:** W **Code:** CAPBP *Capsella bursa-pastoris*
Common Name: Shepherd's purse
- Pest 9 Type:** W **Code:** AMBTR *Ambrosia trifida*
Common Name: Giant ragweed
- Pest10 Type:** W **Code:** CHEAL *Chenopodium album*
Common Name: Common lambsquarters

Site and Design

Treated Plot Width: 6.67 FT
Treated Plot Length: 30 FT
Treated Plot Area: 200.1 FT2 **Treatments:** 10
Replications: 3
Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: NOTILL no-till
Study Design: RACOBL Randomized Complete Block (RCB)

No. Previous Crop Year
1. Soybean 2013

Soil Description

Description Name: F-10 East
% OM: 3 **Texture:** SICL silty clay loam
pH: 6 **Soil Name:** Kokomo
CEC: 19.5 **Fert. Level:** G good
Soil Drainage: G good

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Application Description

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Application Date: Apr-15-2013
Appl. Start Time: 1:45 PM
Appl. Stop Time: 2:15 PM
Application Method: SPRAY
Application Timing: 14 EPP
Application Placement: BROFOL
Applied By: Dobbels
Air Temperature, Unit: 66 F
% Relative Humidity: 59
Wind Velocity, Unit: 6 MPH
Wind Direction: SSE
Dew Presence (Y/N): N no
Soil Temperature, Unit: 53 F
Soil Moisture: MOIST
% Cloud Cover: 80
Next Moisture Occurred On: Apr-16-2013
Time to Next Moisture, Unit: 1 DAY

Crop Stage At Each Application

A

Crop 1 Code, BBCH Scale: ZEAMX BCOR

Pest Stage At Each Application

A

Pest 1 Code, Type, Scale: STEME W
Stage Majority, Percent: 67 100
Diameter, Unit: 4 IN
Height, Unit: 1 IN
Height Minimum, Maximum: 0.5 1
Density, Unit: 17.2 M2
Pest 2 Code, Type, Scale: LAMPU W
Stage Majority, Percent: 60 90
Stage Minimum, Percent: 59 10
Stage Maximum, Percent: 60 90
Diameter, Unit: 2 IN
Height, Unit: 2 IN
Height Minimum, Maximum: 2 3
Density, Unit: 24 M2
Pest 3 Code, Type, Scale: LAMAM W
Stage Majority, Percent: 59 90
Stage Minimum, Percent: 59 90
Stage Maximum, Percent: 60 10
Diameter, Unit: 3 IN
Height, Unit: 2 IN
Height Minimum, Maximum: 2 3
Pest 4 Code, Type, Scale: VERAR W
Stage Majority, Percent: 60 100
Diameter, Unit: 3.4 IN
Height, Unit: 0.5 IN
Height Minimum, Maximum: 0.5 0.5
Density, Unit: 9.3 M2
Pest 5 Code, Type, Scale: ERYRE W
Stage Majority, Percent: 19 100
Diameter, Unit: 3 IN
Height, Unit: 2 IN
Height Minimum, Maximum: 1 3
Density, Unit: 9.3 M2
Pest 6 Code, Type, Scale: ERPSS W
Stage Majority, Percent: 60 90
Stage Minimum, Percent: 60 90
Stage Maximum, Percent: 69 10
Diameter, Unit: 2 IN
Height, Unit: 2 IN
Height Minimum, Maximum: 2 3
Pest 7 Code, Type, Scale: SENGL W
Stage Majority, Percent: 16 80
Stage Minimum, Percent: 16 80
Stage Maximum, Percent: 18 20
Diameter, Unit: 2 IN
Height, Unit: 1 IN
Height Minimum, Maximum: 1 2
Pest 8 Code, Type, Scale: CAPBP W
Density, Unit: 1.3 M2
Pest 9 Code, Type, Scale: AMBTR W
Density, Unit: 8 M2
Pest10 Code, Type, Scale: CHEAL W
Density, Unit: 9.3 M2

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Application Equipment

A

Appl. Equipment:	6 foot boom
Equipment Type:	SPRBAC
Operation Pressure, Unit:	46 PSI
Nozzle Type:	AI XR
Nozzle Size:	110015
Nozzle Spacing, Unit:	18 IN
Boom Length, Unit:	6 FT
Boom Height, Unit:	20 IN
Ground Speed, Unit:	3 MPH
Carrier:	WATER
Spray Volume, Unit:	15 GPA
Mix Size, Unit:	1 Liters
Propellant:	CO2

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Pest Code			STEME	LAMPU	ERYRE	AMBTR	STEME	LAMPU	ERYRE				
Crop Code													
Rating Date			Apr-26-201	Apr-26-2013	Apr-26-2013	Apr-26-201	May-15-201	May-15-2013	May-15-2013				
Rating Type			3			3	3						
Rating Unit			CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO				
Days After First/Last Applic.			%	%	%	%	%	%	%				
Trt-Eval Interval			11 DA-A	11 DA-A	11 DA-A	11 DA-A	30 DA-A	30 DA-A	30 DA-A				
Plant-Eval Interval			-1 DP-1	-1 DP-1	-1 DP-1	-1 DP-1	18 DP-1	18 DP-1	18 DP-1				
Days After Emergence			-17 DE-1	-17 DE-1	-17 DE-1	-17 DE-1	2 DE-1	2 DE-1	2 DE-1				
Trt No.	Treatment Name	Other Rate	Other Rate	Unit	Growth Stage	Appl Code	1	2	3	4	5	6	7
1	Crusher	0.75 oz/a			14 EPP A		83 a	58 a	88 ab	98 a	100 a	99 a	100 a
1	Glyphos X-tra	32 oz/a			14 EPP A								
1	NIS	4.8 oz/a			14 EPP A								
2	Crusher	1 oz/a			14 EPP A		78 a	53 a	82 ab	100 a	100 a	97 a	100 a
2	Glyphos X-tra	32 oz/a			14 EPP A								
2	NIS	4.8 oz/a			14 EPP A								
3	Crusher	2 oz/a			14 EPP A		93 a	53 a	83 ab	100 a	100 a	100 a	100 a
3	Glyphos X-tra	32 oz/a			14 EPP A								
3	NIS	4.8 oz/a			14 EPP A								
4	Leadoff	1.5 oz/a			14 EPP A		90 a	63 a	85 ab	100 a	100 a	98 a	100 a
4	Glyphos X-tra	32 oz/a			14 EPP A								
4	NIS	4.8 oz/a			14 EPP A								
5	Glyphos X-tra	32 oz/a			14 EPP A		82 a	50 a	85 ab	98 a	100 a	95 a	100 a
5	NIS	4.8 oz/a			14 EPP A								
6	Harrow	0.25 oz/a			14 EPP A		80 a	58 a	75 bc	100 a	100 a	99 a	100 a
6	Glyphos X-tra	32 oz/a			14 EPP A								
6	NIS	4.8 oz/a			14 EPP A								
7	Harrow	0.5 oz/a			14 EPP A		75 a	50 a	70 c	98 a	100 a	98 a	100 a
7	Glyphos X-tra	32 oz/a			14 EPP A								
7	NIS	4.8 oz/a			14 EPP A								
8	Harrow	1 oz/a			14 EPP A		72 a	50 a	85 ab	100 a	100 a	99 a	100 a
8	Glyphos X-tra	32 oz/a			14 EPP A								
8	NIS	4.8 oz/a			14 EPP A								
9	Basis 0.5 oz	0.5 oz/a			14 EPP A		90 a	53 a	90 a	97 a	100 a	98 a	100 a
9	Glyphos X-tra	32 oz/a			14 EPP A								
9	NIS	4.8 oz/a			14 EPP A								
10	UTC						0 b	0 b	0 d	0 b	0 b	0 b	0 b
LSD (P=.05)							14.6	15.6	9.0	3.0	0.0	6.2	0.0
Standard Deviation							8.5	9.1	5.2	1.7	0.0	3.6	0.0
CV							11.41	18.51	7.01	1.96	0.0	4.06	0.0
Bartlett's X2							2.344	4.461	4.067	0.0	0.0	13.606	0.0
P(Bartlett's X2)							0.885	0.725	0.851	.	.	0.059	.
Skewness							-2.1324*	-1.6244*	-2.3832*	-2.7894*	-2.8091*	-2.7468*	-2.8091*
Kurtosis							3.7616*	2.7612*	4.6514*	6.2368*	6.3081*	6.0719*	6.3081*
Replicate F							3.783	2.554	1.621	1.909	0.000	1.646	0.000
Replicate Prob(F)							0.0438	0.1056	0.2268	0.1770	1.0000	0.2205	1.0000
Treatment F							30.409	11.514	79.259	965.000	0.000	225.209	0.000
Treatment Prob(F)							0.0001	0.0001	0.0001	0.0001	1.0000	0.0001	1.0000

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
 t=Mean descriptions are reported in transformed data units, and are not de-transformed.
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
 Missing data estimates are included in columns: Yates=1,3,11

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Pest Code	ERICA		SETFA		AMBTR		ERICA		SETFA		AMBTR		CHEAL
Crop Code	May-15-2013		May-15-2013		May-15-2013		May-30-2013		May-30-2013		May-30-2013		May-30-2013
Rating Date					3						3		3
Rating Type	CONTRO		CONTRO		CONTRO		CONTRO		CONTRO		CONTRO		CONTRO
Rating Unit	%		%		%		%		%		%		%
Days After First/Last Applic.	30 30		30 30		30 30		45 45		45 45		45 45		45 45
Trt-Eval Interval	30 DA-A		30 DA-A		30 DA-A		45 DA-A		45 DA-A		45 DA-A		45 DA-A
Plant-Eval Interval	18 DP-1		18 DP-1		18 DP-1		33 DP-1		33 DP-1		33 DP-1		33 DP-1
Days After Emergence	2 DE-1		2 DE-1		2 DE-1		17 DE-1		17 DE-1		17 DE-1		17 DE-1
Trt No.	Treatment Name	Other Rate	Other Rate	Unit	Growth Stage	Appl Code	8	9	10	11	12	13	14
1	Crusher	0.75 oz/a			14 EPP A		93 a	83 a	72 a	81 a	82 a	50 a	100 a
1	Glyfos X-tra	32 oz/a			14 EPP A								
1	NIS	4.8 oz/a			14 EPP A								
2	Crusher	1 oz/a			14 EPP A		95 a	85 a	78 a	65 a	82 a	67 a	100 a
2	Glyfos X-tra	32 oz/a			14 EPP A								
2	NIS	4.8 oz/a			14 EPP A								
3	Crusher	2 oz/a			14 EPP A		100 a	90 a	60 a	88 a	90 a	62 a	100 a
3	Glyfos X-tra	32 oz/a			14 EPP A								
3	NIS	4.8 oz/a			14 EPP A								
4	Leadoff	1.5 oz/a			14 EPP A		98 a	97 a	88 a	91 a	84 a	77 a	100 a
4	Glyfos X-tra	32 oz/a			14 EPP A								
4	NIS	4.8 oz/a			14 EPP A								
5	Glyfos X-tra	32 oz/a			14 EPP A		87 a	17 b	17 b	72 a	0 b	13 b	0 b
5	NIS	4.8 oz/a			14 EPP A								
6	Harrow	0.25 oz/a			14 EPP A		98 a	88 a	78 a	74 a	77 a	65 a	100 a
6	Glyfos X-tra	32 oz/a			14 EPP A								
6	NIS	4.8 oz/a			14 EPP A								
7	Harrow	0.5 oz/a			14 EPP A		83 a	95 a	78 a	71 a	82 a	57 a	100 a
7	Glyfos X-tra	32 oz/a			14 EPP A								
7	NIS	4.8 oz/a			14 EPP A								
8	Harrow	1 oz/a			14 EPP A		90 a	88 a	75 a	63 a	85 a	66 a	100 a
8	Glyfos X-tra	32 oz/a			14 EPP A								
8	NIS	4.8 oz/a			14 EPP A								
9	Basis 0.5 oz	0.5 oz/a			14 EPP A		97 a	78 a	83 a	78 a	77 a	70 a	100 a
9	Glyfos X-tra	32 oz/a			14 EPP A								
9	NIS	4.8 oz/a			14 EPP A								
10	UTC						0 b	0 b	0 b	0 b	0 b	0 b	0 b
LSD (P=.05)							13.1	27.2	32.9	29.3t	23.2	27.4	0.0
Standard Deviation							7.6	15.9	19.2	16.9t	13.5	16.0	0.0
CV							9.05	22.0	30.45	30.78	20.58	30.42	0.0
Bartlett's X2							6.448	10.105	3.043	5.936	2.823	5.695	0.0
P(Bartlett's X2)							0.489	0.258	0.932	0.547	0.901	0.681	.
Skewness							-2.434*	-1.3384*	-0.9708*	-0.8902	-1.1881*	-0.8469	-1.5801*
Kurtosis							4.9213*	0.3699	-0.2519	0.8824	-0.0656	-0.3509	0.5274
Replicate F							1.316	1.411	1.445	0.876	0.350	2.425	0.000
Replicate Prob(F)							0.2927	0.2695	0.2619	0.4368	0.7093	0.1168	1.0000
Treatment F							46.672	13.985	7.325	4.328	19.920	7.588	0.000
Treatment Prob(F)							0.0001	0.0001	0.0002	0.0062	0.0001	0.0001	1.0000

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Pest Code

STEME, *Stellaria media*, = US
LAMPU, *Lamium purpureum*, = US
ERYRE, *Erysimum repandum*, = US
AMBTR, *Ambrosia trifida*, = US
ERICA, *Conyza canadensis*, = US
SETFA, *Setaria faberi*, = US
CHEAL, *Chenopodium album*, = US

Rating Type

CONTRO = control / burndown or knockdown

Rating Unit

% = percent

Plant-Eval Interval

-1 DP-1 = 1 ZEAMX Apr-27-2013
18 DP-1 = 1 ZEAMX Apr-27-2013
33 DP-1 = 1 ZEAMX Apr-27-2013