

# The Ohio State University

## Corn No-Till Weed Control I

Trial ID: 13NTC1      Location: WESTERN BRANCH F-10 E      Trial Year: 2013  
 Protocol ID: 13NTC1      Investigator: Dr. Mark M. Loux  
 Project ID:      Study Director:  
                  Sponsor Contact:

### General Trial Information

**Investigator:** Dr. Mark M. Loux    **Title:** Professor

### Trial Location

**City:** South Charleston    **Country:** USA      United States  
**State/Prov.:** Ohio  
**Postal Code:** 45368      **Climate Zone:** US Warm Continental

**Latitude of LL Corner °:** 3951.516 N  
**Longitude of LL Corner °:** 8340.208 W

### Crop Description

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

Corn

**Planting Rate, Unit:** 32097    S/A  
**Depth, Unit:** 1.5    IN  
**Row Spacing, Unit:** 30    I

**Planting Date:** Apr-27-2013  
**Planting Method:** PLANTD planted  
**Planting Equipment:** FPP      Finger Pickup Planter  
**Emergence Date:** May-13-2013  
**Harvest Date:** Oct-21-2013  
**Harvested Width, Unit:** 5    FT  
**Harvested Length, Unit:** 30    FT  
**Harvest Equipment:** Massey Ferguson 8 XP  
**% Standard Moisture:** 15.5  
**Moisture Meter:** Harvest Master  
**Weighing Equipment:** Harvest Master

**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:** ERYRE *Erysimum repandum*  
**Common Name:** Bushy wallflower
- Pest 4 Type:** W    **Code:** CAPBP *Capsella bursa-pastoris*  
**Common Name:** Shepherd's purse
- Pest 5 Type:** W    **Code:** VERAR *Veronica arvensis*  
**Common Name:** Corn speedwell
- Pest 6 Type:** W    **Code:** ERPSS *Erophila sp.*  
**Common Name:** Whitlowgrass
- Pest 7 Type:** W    **Code:** AMBTR *Ambrosia trifida*  
**Common Name:** Giant ragweed
- Pest 8 Type:** W    **Code:** SETFA *Setaria faberi*  
**Common Name:** Giant foxtail
- Pest 9 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:** 12  
**Replications:** 3

**Site Type:** FIELD    field  
**Experimental Unit:** 1    PLOT                    plot  
**Tillage Type:** NOTILL    no-till  
**Study Design:** RACOB    Randomized Complete Block (RCB)

### 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

	A	B
<b>Application Date:</b>	Apr-22-2013	Jun-4-2013
<b>Appl. Start Time:</b>	1:00 P.M.	9:00 AM
<b>Appl. Stop Time:</b>	1:20 PM	9:30 AM
<b>Application Method:</b>	SPRAY	SPRAY
<b>Application Timing:</b>	7 EPP	POST
<b>Application Placement:</b>	BROFOL	BROFOL
<b>Applied By:</b>	Ackley	Dobbels
<b>Air Temperature, Unit:</b>	62 F	61 F
<b>% Relative Humidity:</b>	49	58
<b>Wind Velocity, Unit:</b>	3 MPH	1 MPH
<b>Wind Direction:</b>	ESE	SE
<b>Dew Presence (Y/N):</b>	N no	Y yes
<b>Soil Temperature, Unit:</b>	51 F	58 F
<b>Soil Moisture:</b>	MOIST	NORMAL
<b>% Cloud Cover:</b>	0	10
<b>Next Moisture Occurred On:</b>	Apr-24-2013	Jun-7-2013
<b>Time to Next Moisture, Unit:</b>	2 DAY	3 DAY

### Crop Stage At Each Application

	A	B
<b>Crop 1 Code, BBCH Scale:</b>	ZEAMX BCOR	ZEAMX BCOR
<b>Stage Scale Used:</b>		BBCH
<b>Stage Majority, Percent:</b>		14 100
<b>Height, Unit:</b>		10 IN
<b>Height Minimum, Maximum:</b>		10 13

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### Pest Stage At Each Application

	A	B
<b>Pest 1 Code, Type, Scale:</b>	STEME W	STEME W
<b>Stage Majority, Percent:</b>	67	100
<b>Diameter, Unit:</b>	7 IN	
<b>Height, Unit:</b>	1 IN	
<b>Height Minimum, Maximum:</b>	0.5	1
<b>Density, Unit:</b>	13.3	M2
<b>Pest 2 Code, Type, Scale:</b>	LAMPU W	LAMPU W
<b>Stage Majority, Percent:</b>	67	100
<b>Diameter, Unit:</b>	2 IN	
<b>Height, Unit:</b>	3 IN	
<b>Height Minimum, Maximum:</b>	2	3
<b>Density, Unit:</b>	14.6	M2
<b>Pest 3 Code, Type, Scale:</b>	ERYRE W	ERYRE W
<b>Stage Majority, Percent:</b>	59	90
<b>Diameter, Unit:</b>	3 IN	
<b>Height, Unit:</b>	3 IN	
<b>Height Minimum, Maximum:</b>	3	4
<b>Density, Unit:</b>	1.3	M2
<b>Pest 4 Code, Type, Scale:</b>	CAPBP W	CAPBP W
<b>Stage Majority, Percent:</b>	67	100
<b>Diameter, Unit:</b>	3 IN	
<b>Height, Unit:</b>	10 IN	
<b>Height Minimum, Maximum:</b>	10	12
<b>Density, Unit:</b>	5.3	M2
<b>Pest 5 Code, Type, Scale:</b>	VERAR W	VERAR W
<b>Stage Majority, Percent:</b>	19	100
<b>Diameter, Unit:</b>	3 IN	
<b>Height, Unit:</b>	0.25 IN	
<b>Height Minimum, Maximum:</b>	0.25	0.5
<b>Density, Unit:</b>	36	M2
<b>Pest 6 Code, Type, Scale:</b>	ERPSS W	ERPSS W
<b>Stage Majority, Percent:</b>	69	100
<b>Diameter, Unit:</b>	2 IN	
<b>Height, Unit:</b>	4 IN	
<b>Height Minimum, Maximum:</b>	2	4
<b>Pest 7 Code, Type, Scale:</b>	AMBTR W	AMBTR W
<b>Stage Majority, Percent:</b>	08	100
<b>Diameter, Unit:</b>	2 IN	
<b>Height, Unit:</b>	0.5 IN	4 IN
<b>Height Minimum, Maximum:</b>	0.5	0.5
<b>Density, Unit:</b>	8	M2
<b>Pest 8 Code, Type, Scale:</b>	SETFA W	SETFA W
<b>Stage Majority, Percent:</b>		15
<b>Height, Unit:</b>		7 IN
<b>Height Minimum, Maximum:</b>		7
<b>Density, Unit:</b>	5.3	M2
<b>Pest 9 Code, Type, Scale:</b>	CHEAL W	CHEAL W
<b>Stage Majority, Percent:</b>		19
<b>Height, Unit:</b>		7 IN
<b>Height Minimum, Maximum:</b>		7

### Application Equipment

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

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Pest Type			
Pest Code			
Pest Scientific Name			
Pest Name			
Crop Code	ZEAMX	ZEAMX	ZEAMX
BBCH Scale	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays	Zea mays	Zea mays
Crop Name	Corn	Corn	Corn
Rating Date	Oct-21-2013	Oct-21-2013	Oct-21-2013
Rating Type	YIELD	MOICON	YIELD
Rating Unit	LBS	%	BU
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit	150 FT2	150 FT2	150 FT2
Number of Subsamples	1	1	1
Rating Timing			
Days After First/Last Applic.	182 139	182 139	182 139
Trt-Eval Interval			
Plant-Eval Interval	177 DP-1	177 DP-1	177 DP-1
Days After Emergence	161 DE-1	161 DE-1	161 DE-1
ARM Action Codes	AS	EC	EC TY1
Number of Decimals	1	1	1

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage	Appl Code	28	29	30
1	UTC					7.2 e	17.4	36.3
2	Roundup PowerMax	22 oz/a		7 EPP	A	50.6 a	16.8 a	258.5 a
	2,4-D	2 pt/a		7 EPP	A			
	Fierce	3 oz/a		7 EPP	A			
	2 N-PAK AMS	1.5 qt/a		7 EPP	A			
	Roundup PowerMax	22 oz/a		POST	B			
	2 N-PAK AMS	1.5 qt/a		POST	B			
3	Roundup PowerMax	22 oz/a		7 EPP	A	47.7 abc	16.8 a	243.4 abc
	2,4-D	2 pt/a		7 EPP	A			
	Fierce	3 oz/a		7 EPP	A			
	Atrazine	1 qt/a		7 EPP	A			
	3 N-PAK AMS	1.5 qt/a		7 EPP	A			
	Roundup PowerMax	22 oz/a		POST	B			
	3 N-PAK AMS	1.5 qt/a		POST	B			
4	Lexar EZ	3.5 qt/a		7 EPP	A	46.6 bc	16.7 a	238.4 bc
	COC	0.6 qt/a		7 EPP	A			
	Touchdown Total	24 oz/a		POST	B			
	4 N-PAK AMS	1.5 qt/a		POST	B			
5	Lexar EZ	2.25 pt/a		7 EPP	A	46.9 abc	16.6 a	240.0 abc
	COC	0.6 qt/a		7 EPP	A			
	Halex GT	3.6 pt/a		POST	B			
	NIS	4.8 oz/a		POST	B			
	5 N-PAK AMS	1.5 qt/a		POST	B			
6	Lexar EZ	2.25 pt/a		7 EPP	A	49.2 ab	16.3 a	253.1 ab
	2,4-D	1 pt/a		7 EPP	A			
	Gramoxone Inteon	3 pt/a		7 EPP	A			
	NIS	4.8 oz/a		7 EPP	A			
	Halex GT	3.6 pt/a		POST	B			
	NIS	4.8 oz/a		POST	B			
	6 N-PAK AMS	1.5 qt/a		POST	B			

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

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Pest Type			
Pest Code			
Pest Scientific Name			
Pest Name			
Crop Code	ZEAMX	ZEAMX	ZEAMX
BBCH Scale	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays	Zea mays	Zea mays
Crop Name	Corn	Corn	Corn
Rating Date	Oct-21-2013	Oct-21-2013	Oct-21-2013
Rating Type	YIELD	MOICON	YIELD
Rating Unit	LBS	%	BU
Sample Size, Unit	1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit	150 FT2	150 FT2	150 FT2
Number of Subsamples	1	1	1
Rating Timing			
Days After First/Last Applic.	182 139	182 139	182 139
Trt-Eval Interval			
Plant-Eval Interval	177 DP-1	177 DP-1	177 DP-1
Days After Emergence	161 DE-1	161 DE-1	161 DE-1
ARM Action Codes	AS	EC	EC TY1
Number of Decimals	1	1	1

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Growth Stage	Appl Code	28	29	30
7	Corvus	5.6 oz/a		7 EPP	A	45.4 c	16.9 a	231.6 c
7	Atrazine	1.5 qt/a		7 EPP	A			
7	COC	0.6 qt/a		7 EPP	A			
7	Roundup PowerMax	32 oz/a		POST	B			
7	N-PAK AMS	1.5 qt/a		POST	B			
8	Instigate 6 oz					45.1 c	17.0 a	229.8 c
8	Rimsulfuron	1 oz/a		7 EPP	A			
8	Mesotrione	5 oz/a		7 EPP	A			
8	Cinch ATZ	3 pt/a		7 EPP	A			
8	COC	0.6 qt/a		7 EPP	A			
8	Abundit Extra	32 oz/a		POST	B			
8	N-PAK AMS	1.5 qt/a		POST	B			
9	Instigate 6 oz					47.5 abc	17.3 a	241.2 abc
9	Rimsulfuron	1 oz/a		7 EPP	A			
9	Mesotrione	5 oz/a		7 EPP	A			
9	Cinch ATZ	3 pt/a		7 EPP	A			
9	2,4-D	1 pt/a		7 EPP	A			
9	COC	0.6 qt/a		7 EPP	A			
9	Abundit Extra	32 oz/a		POST	B			
9	N-PAK AMS	1.5 qt/a		POST	B			
10	Instigate 5.25 oz					48.0 abc	16.5 a	245.9 abc
10	Rimsulfuron	0.87 oz/a		7 EPP	A			
10	Mesotrione	4.36 oz/a		7 EPP	A			
10	Cinch ATZ	3 pt/a		7 EPP	A			
10	COC	0.6 qt/a		7 EPP	A			
10	Abundit Extra	32 oz/a		POST	B			
10	N-PAK AMS	1.5 qt/a		POST	B			
11	Instigate 5.25 oz					41.3 d	17.0 a	210.4 d
11	Rimsulfuron	0.87 oz/a		7 EPP	A			
11	Mesotrione	4.36 oz/a		7 EPP	A			
11	Cinch ATZ	3 pt/a		7 EPP	A			
11	2,4-D	1 pt/a		7 EPP	A			
11	COC	0.6 qt/a		7 EPP	A			
11	Abundit Extra	32 oz/a		POST	B			
11	N-PAK AMS	1.5 qt/a		POST	B			

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Pest Type				
Pest Code				
Pest Scientific Name				
Pest Name				
Crop Code		ZEAMX	ZEAMX	ZEAMX
BBCH Scale		BCOR	BCOR	BCOR
Crop Scientific Name		Zea mays	Zea mays	Zea mays
Crop Name		Corn	Corn	Corn
Rating Date		Oct-21-2013	Oct-21-2013	Oct-21-2013
Rating Type		YIELD	MOICON	YIELD
Rating Unit		LBS	%	BU
Sample Size, Unit		1 PLOT	1 PLOT	1 PLOT
Collection Basis, Unit		150 FT2	150 FT2	150 FT2
Number of Subsamples		1	1	1
Rating Timing				
Days After First/Last Applic.		182 139	182 139	182 139
Trt-Eval Interval				
Plant-Eval Interval		177 DP-1	177 DP-1	177 DP-1
Days After Emergence		161 DE-1	161 DE-1	161 DE-1
ARM Action Codes		AS	EC	EC TY1
Number of Decimals		1	1	1

Trt Treatment No. Name	Other Rate	Other Rate Unit	Growth Stage	Appl Code	28	29	30
12 Surestart	3 pt/a		7 EPP	A	49.4 ab	17.4 a	250.5 ab
12 AAtrex	1 qt/a		7 EPP	A			
12 Durango DMA	1.5 pt/a		7 EPP	A			
12 2,4-D Amine	1 pt/a		7 EPP	A			
12 N-PAK AMS	1.5 qt/a		7 EPP	A			
12 Durango DMA	1.5 pt/a		POST	B			
12 N-PAK AMS	1.5 qt/a		POST	B			
LSD (P=.05)					0.28t	1.39	18.68
Standard Deviation					0.16t	0.82	10.97
CV					2.48	4.84	4.56
Bartlett's X2					19.377	13.459	12.695
P(Bartlett's X2)					0.055	0.199	0.241
Skewness					-2.9546*	0.5739	-0.6839
Kurtosis					7.5848*	0.0189	-0.1066
Replicate F					1.912	0.825	1.499
Replicate Prob(F)					0.1716	0.4524	0.2474
Treatment F					164.753	0.494	4.307
Treatment Prob(F)					0.0001	0.8745	0.0027

Crop Code  
 ZEAMX, BCOR, Zea mays, = US

Rating Type  
 YIELD = yield  
 MOICON = moisture content

Rating Unit  
 % = percent  
 BU = bushel

PLOT = total plot

FT2 = square foot

Plant-Eval Interval  
 177 DP-1 = 1 ZEAMX Apr-27-2013

ARM Action Codes

AS = Automatic square root transformation of X+0.5

EC = Do not analyze untreated check, and report check treatment mean on AOV Means Table

TY1 = 5.185714\*[28]\*(100-[29])/84.5