

Ohio State University Horticulture and Crop Science

Get the Most Out of Every Corn Acre

Title No. 2:
 Trial ID: 10GMOECA Protocol ID: 10GMOECA
 Location: WESTERN BRANCH BIG E Study Director: Anthony F. Dobbels
 Project ID: Investigator: Dr. Mark M. Loux
 Sponsor Contact: Caren Judge, BASF

General Trial Information

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

Trial Location

City: South Charleston **Latitude of LL Corner °:** 39.85767 N
State/Prov.: Ohio **Longitude of LL Corner °:** 83.66992 W
Postal Code: 45368 **Altitude of LL Corner, Unit:** 1096.00 FT
Country: USA

Personnel

Study Director: Anthony F. Dobbels **Title:** Research Specialist
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 **Title:** Professor
Affiliation: The Ohio State University
Address: 222 Kottman Hall, 2021 Coffey Road
Location: Columbus OH
Postal Code: 43210 **E-mail:** loux.1@osu.edu

Crop Description

Crop 1: ZEAMX Zea mays Corn
Variety: DEKALKB DKC 60-51
BBCH Scale: BCOR
Planting Method: SEEDED seeded
Depth, Unit: 2 IN
Row Spacing, Unit: 30 IN
Seed Bed: MEDIUM medium
Soil Moisture: DRY dry
Harvest Date: 9/14/10
Harvested Width, Unit: 5 FT
% Standard Moisture: 15.5
Weighing Equipment: HARVEST MASTER 401

Description: RR
Planting Date: 4/30/10
Rate, Unit: 49000 S/A

Soil Temperature, Unit: 58 F

Harvest Equipment: MASSEY 8 XP
Harvested Length, Unit: 30 FT
Moisture Meter: HARVEST MASTER

Pest Description

Pest 1 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: Giant ragweed

Site and Design

Plot Width, Unit: 10 FT
Plot Length, Unit: 30 FT
Plot Area, Unit: 300 FT²
Replications: 6

Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: CONTIL conventional-till
Study Design: RACOB Randomized Complete Block (RCB)
Untreated Arrangement: INCLUDED single control randomized in each block

Soil Description

Description Name: Big E South
% OM: 2.2 **Texture:** SICL silty clay loam
pH: 6.1 **Soil Name:** Kokomo
CEC: 14

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Application Description

	A	B	C
Application Date:	5/1/10	5/31/10	7/8/10
Time of Day:	5:00 A.M.	10:00 A.M.	8:45 A.M.
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	POST	VT
Application Placement:	BROSOI	BROFO	BROFO
Applied By:	Dobbels	Loux	Dobbels
Air Temperature, Unit:	66 F	78 F	82 F
% Relative Humidity:	60	72	73
Wind Velocity, Unit:	7 MPH	6 MPH	0 MPH
Wind Direction:	W	ESE	
Dew Presence (Y/N):	N no	N no	Y yes
Soil Temperature, Unit:	58 F	74 F	75 F
Soil Moisture:	DRY	DRY	DRY
% Cloud Cover:	100	15	0
Next Rain Occurred On:	5/1/10	6/2/10	7/8/10

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR
Stage Scale Used:		BBCH	BBCH
Stage Majority, Percent:		16 100	63 100
Height, Unit:		13 IN	115 IN
Height Minimum, Maximum:		12 14	113 115

Pest Stage At Each Application

	A	B	C
Pest 1 Code, Type, Scale:	AMBTR W	AMBTR W	AMBTR W
Stage Majority, Percent:		14 100	
Height, Unit:		3 IN	
Height Minimum, Maximum:		2 4	
Density, Unit:		2 M2	

Application Equipment

	A	B	C
Appl. Equipment:	Tractor	BACKPACK	OVERHEAD
Equipment Type:	SPTRMO	SPRBAC	SPRBAC
Operating Pressure, Unit:	32 PSI	53 PSI	58 PSI
Nozzle Type:	DG	TEEJET DG	TEEJET VS
Nozzle Size:	11002	11002	8001
Nozzle Spacing, Unit:	20 IN	18 IN	15 IN
Boom Length, Unit:	15 FT	10 FT	10 FT
Boom Height, Unit:	20 IN	20 IN	12 FT
Ground Speed, Unit:	3 MPH	3 MPH	3 MPH
Carrier:	WATER	WATER	WATER
Spray Volume, Unit:	20 GAL/AC	20 GAL/AC	15 GAL/AC
Mix Size, Unit:	10 gallons	3 Liters	3 gallons
Propellant:	PUMROL	CO2	CO2
Tank Mix (Y/N):	N no		

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Crop Code						
Rating Date	5/31/10	5/31/10	5/31/10	5/31/10	5/31/10	6/28/10
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%	%
Trt-Eval Interval	0 DA-B	0 DA-B	0 DA-B	0 DA-B	0 DA-B	28 DA-B
Plant-Eval Interval	31 DP-1	31 DP-1	31 DP-1	31 DP-1	31 DP-1	59 DP-1
Days After Emergence	21 DE-	21 DE-	21 DE-	21 DE-	21 DE-	49 DE-
Pest Code	SETFA	AMBTR	AMBEL	CHEAL	ABUTH	SETFA
Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Scientific Name	Setaria faberi	Ambrosia trifi>	Ambrosia artem>	Chenopodium al>	Abutilon theop>	Setaria faberi
Pest Name	Giant foxtail	Giant ragweed	Common ragweed	Common lambsqu>	Velvetleaf	Giant foxtail

Trt No.	Treatment Name	Form Conc	Other Rate	Other Rate	Appl Unit Code	1	2	3	4	5	6
1	UTC					0	0	0	0	0	0
2	Guardsman Max	5	56 oz/a		A	100	50	100	100	100	99
	2 Roundup PowerMax	4.5	22 oz/a		B						
	2 NIS	100	6.4 oz/a								
	2 N-PAK AMS	100	4 qt/a								
3	Integrity	5.57	16 oz/a		A	100	89	100	100	100	100
	3 Roundup PowerMax	4.5	22 oz/a		B						
	3 NIS	100	6.4 oz/a								
	3 N-PAK AMS	100	2 qt/a								
4	Integrity	5.57	16 oz/a		A	100	95	100	100	100	100
	4 Roundup PowerMax	4.5	22 oz/a		B						
	4 Status	56	2.5 oz/a								
	4 N-PAK AMS	100	2 qt/a								
5	Integrity	5.57	16 oz/a		A	100	93	100	100	100	99
	5 Roundup PowerMax	4.5	22 oz/a		B						
	5 Headline	2.09	6 oz/a								
	5 N-PAK AMS	100	2 qt/a								
6	Integrity	5.57	16 oz/a		A	100	92	100	100	100	100
	6 Roundup PowerMax	4.5	22 oz/a		B						
	6 NIS	100	6.4 oz/a								
	6 N-PAK AMS	100	2 qt/a								
	6 Headline Amp	1.68	10 oz/a		C						
	6 NIS	100	6.4 oz/a								
7	Integrity	5.57	16 oz/a		A	100	88	100	100	100	96
	7 Roundup PowerMax	4.5	22 oz/a		B						
	7 Status	56	2.5 oz/a								
	7 N-PAK AMS	100	2 qt/a								
	7 Headline Amp	1.68	10 oz/a		C						
	7 NIS	100	6.4 oz/a								
8	Integrity	5.57	16 oz/a		A	100	92	100	100	100	97
	8 Roundup PowerMax	4.5	22 oz/a		B						
	8 Headline	2.09	6 oz/a								
	8 N-PAK AMS	100	2 qt/a								
	8 Headline Amp	1.68	10 oz/a		C						
	8 NIS	100	6.4 oz/a								
LSD (P=.05)						0.2	9.0	0.0	0.0	0.0	3.3
Standard Deviation						0.1	7.6	0.0	0.0	0.0	2.8
CV						0.16	10.2	0.0	0.0	0.0	3.21
Bartlett's X2						0.0	5.93	0.0	0.0	0.0	31.313
P(Bartlett's X2)						.	0.431	.	.	.	0.001*
Replicate F						1.000	0.648	0.000	0.000	0.000	0.390
Replicate Prob(F)						0.4321	0.6650	1.0000	1.0000	1.0000	0.8521
Treatment F						359829.598	116.389	0.000	0.000	0.000	955.063
Treatment Prob(F)						0.0001	0.0001	1.0000	1.0000	1.0000	0.0001

Ohio State University Horticulture and Crop Science

Crop Code					
Rating Date	6/28/10	6/28/10	6/28/10	6/28/10	7/29/10
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	INFEST
Rating Unit	%	%	%	%	%
Trt-Eval Interval	28 DA-B	28 DA-B	28 DA-B	28 DA-B	21 DA-C
Plant-Eval Interval	59 DP-1	59 DP-1	59 DP-1	59 DP-1	90 DP-1
Days After Emergence	49 DE-	49 DE-	49 DE-	49 DE-	
Pest Code	AMBTR	AMBEL	CHEAL	ABUTH	STEMSO
Pest Type	W Weed	W Weed	W Weed	W Weed	D Disease
Pest Scientific Name	Ambrosia trifid>	Ambrosia artem>	Chenopodium al>	Abutilon theop>	Stemphylium so>
Pest Name	Giant ragweed	Common ragweed	Common lambsqu>	Velvetleaf	Grey leaf spot>

Trt No.	Treatment Name	Form Conc	Other Rate	Other Rate	Appl Unit Code	7	8	9	10	11
1	UTC					0	0	0	0	1
2	Guardsman Max	5	56 oz/a		A	82	100	98	98	0
	2 Roundup PowerMax	4.5	22 oz/a		B					
	2 NIS	100	6.4 oz/a							
	2 N-PAK AMS	100	4 qt/a							
3	Integrity	5.57	16 oz/a		A	86	100	100	100	1
	3 Roundup PowerMax	4.5	22 oz/a		B					
	3 NIS	100	6.4 oz/a							
	3 N-PAK AMS	100	2 qt/a							
4	Integrity	5.57	16 oz/a		A	85	100	100	100	0
	4 Roundup PowerMax	4.5	22 oz/a		B					
	4 Status	56	2.5 oz/a							
	4 N-PAK AMS	100	2 qt/a							
5	Integrity	5.57	16 oz/a		A	80	100	100	100	1
	5 Roundup PowerMax	4.5	22 oz/a		B					
	5 Headline	2.09	6 oz/a							
	5 N-PAK AMS	100	2 qt/a							
6	Integrity	5.57	16 oz/a		A	83	100	100	100	0
	6 Roundup PowerMax	4.5	22 oz/a		B					
	6 NIS	100	6.4 oz/a							
	6 N-PAK AMS	100	2 qt/a							
	6 Headline Amp	1.68	10 oz/a		C					
	6 NIS	100	6.4 oz/a							
7	Integrity	5.57	16 oz/a		A	82	100	100	100	0
	7 Roundup PowerMax	4.5	22 oz/a		B					
	7 Status	56	2.5 oz/a							
	7 N-PAK AMS	100	2 qt/a							
	7 Headline Amp	1.68	10 oz/a		C					
	7 NIS	100	6.4 oz/a							
8	Integrity	5.57	16 oz/a		A	84	100	100	100	0
	8 Roundup PowerMax	4.5	22 oz/a		B					
	8 Headline	2.09	6 oz/a							
	8 N-PAK AMS	100	2 qt/a							
	8 Headline Amp	1.68	10 oz/a		C					
	8 NIS	100	6.4 oz/a							
	LSD (P=.05)					7.0	0.0	2.6	2.6	0.6
	Standard Deviation					5.9	0.0	2.2	2.2	0.5
	CV					8.16	0.0	2.48	2.48	152.02
	Bartlett's X2					6.851	0.0	0.0	0.0	5.451
	P(Bartlett's X2)					0.335	.	.	.	0.487
	Replicate F					0.373	0.000	1.000	1.000	0.934
	Replicate Prob(F)					0.8636	1.0000	0.4321	0.4321	0.4709
	Treatment F					147.831	0.000	1589.572	1589.572	1.715
	Treatment Prob(F)					0.0001	1.0000	0.0001	0.0001	0.1376

Ohio State University Horticulture and Crop Science

Crop Code				ZEAMX
Rating Date	7/29/10	7/29/10	7/29/10	9/8/10
Rating Type	INFEST	INFEST	INFEST	SENESC
Rating Unit	%	%	%	%
Trt-Eval Interval	21 DA-C	21 DA-C	21 DA-C	
Plant-Eval Interval	90 DP-1	90 DP-1	90 DP-1	131 DP-1
Days After Emergence				
Pest Code	STEMSO	COLLGR	HELMSP	
Pest Type	D Disease	D Disease	D Disease	
Pest Scientific Name	Stemphylium so>	Glomerella gra>	Helminthospori>	
Pest Name	Grey leaf spot>	Anthrachnose of>	Helminthospori>	

Trt No.	Treatment Name	Form Conc	Other Rate	Other Rate Unit	Appl Code	12	13	14	15
1	UTC					2	0	0	87
2	Guardsman Max	5	56 oz/a		A	3	0	0	89
2	Roundup PowerMax	4.5	22 oz/a		B				
2	NIS	100	6.4 oz/a						
2	N-PAK AMS	100	4 qt/a						
3	Integrity	5.57	16 oz/a		A	2	0	0	84
3	Roundup PowerMax	4.5	22 oz/a		B				
3	NIS	100	6.4 oz/a						
3	N-PAK AMS	100	2 qt/a						
4	Integrity	5.57	16 oz/a		A	3	0	0	84
4	Roundup PowerMax	4.5	22 oz/a		B				
4	Status	56	2.5 oz/a						
4	N-PAK AMS	100	2 qt/a						
5	Integrity	5.57	16 oz/a		A	3	0	0	84
5	Roundup PowerMax	4.5	22 oz/a		B				
5	Headline	2.09	6 oz/a						
5	N-PAK AMS	100	2 qt/a						
6	Integrity	5.57	16 oz/a		A	2	0	0	83
6	Roundup PowerMax	4.5	22 oz/a		B				
6	NIS	100	6.4 oz/a						
6	N-PAK AMS	100	2 qt/a						
6	Headline Amp	1.68	10 oz/a		C				
6	NIS	100	6.4 oz/a						
7	Integrity	5.57	16 oz/a		A	2	0	0	86
7	Roundup PowerMax	4.5	22 oz/a		B				
7	Status	56	2.5 oz/a						
7	N-PAK AMS	100	2 qt/a						
7	Headline Amp	1.68	10 oz/a		C				
7	NIS	100	6.4 oz/a						
8	Integrity	5.57	16 oz/a		A	2	0	0	82
8	Roundup PowerMax	4.5	22 oz/a		B				
8	Headline	2.09	6 oz/a						
8	N-PAK AMS	100	2 qt/a						
8	Headline Amp	1.68	10 oz/a		C				
8	NIS	100	6.4 oz/a						
LSD (P=.05)						1.0	0.2	0.5	5.6
Standard Deviation						0.9	0.1	0.5	4.7
CV						35.46	692.82	242.39	5.55
Bartlett's X2						11.866	0.0	2.733	1.536
P(Bartlett's X2)						0.105	.	0.603	0.981
Replicate F						7.413	1.000	0.908	14.762
Replicate Prob(F)						0.0001	0.4321	0.4872	0.0001
Treatment F						2.291	1.000	0.793	1.312
Treatment Prob(F)						0.0495	0.4478	0.5985	0.2736

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Title No. 2:

Trial ID: 10GMOECA
Location: WESTERN BRANCH BIG E
Project ID:

Protocol ID: 10GMOECA
Study Director: Anthony F. Dobbels
Investigator: Dr. Mark M. Loux
Sponsor Contact: Caren Judge, BASF

Crop Code

ZEAMX, BCOR, Zea mays, = US

Rating Type

CONTRO = control / burndown or knockdown

INFEST = infestation

SENESE = senescence

Rating Unit

% = percent

Plant-Eval Interval

31 DP-1 = 1 4/30/10

59 DP-1 = 1 4/30/10

90 DP-1 = 1 4/30/10

131 DP-1 = 1 4/30/10

Pest Code

SETFA, Setaria faberi, = US

AMBTR, Ambrosia trifida, = US

AMBEL, Ambrosia artemisiifolia, = US

CHEAL, Chenopodium album, = US

ABUTH, Abutilon theophrasti, = US

STEMSO, Stemphylium solani, = US

COLLGR, Glomerella graminicola, = US

HELMSP, Helminthosporium sp., = US

Pest Type

W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop

D, Disease, G-BYRD7, G-DisStg = Disease, such as a fungus, bacteria, or virus