

(19SHIELDX)

The Ohio State University

2019 Shieldex Visibility Protocol

Trial ID: 19SHIELDX

Location:

Trial Year: 2019

Protocol ID:

Investigator: Dr. Mark M. Loux

Project ID:

Study Director: Chuck Foresman

Sponsor Contact: Chuck Foresman

General Trial Information

Study Director: Chuck Foresman

Investigator: Dr. Mark M. Loux

Trial Status: E established

ARM Trial Created On: Feb-26-2019

Trial Location

City: South Charleston **Country:** USA United States

State/Prov.: Ohio

Postal Code: 45368

Climate Zone: USWARM US Warm Continental

Latitude of LL Corner °: 39.85709 N

Longitude of LL Corner °: 83.086017 W

Altitude of LL Corner: 1185.00 Ft

Conducted Under GLP: No

Conducted Under GEP: No

Contacts

Study Director: Chuck Foresman

Investigator: Dr. Mark M. Loux

Crop Description

Crop 1: C ZEAMX Zea mays Corn

Entry Date: Apr-15-2019

Variety: Pioneer P1197AM

Attributes: RR/LL

Planting Date: Apr-12-2019

Planting Rate: 32097 S/A

Depth: 1.5 IN

Rows per Plot: 4

Planting Method: SEEDED seeded

Row Spacing: 30 IN

Planting Equipment: FPP finger pickup planter

Seed Bed: SMOOTH smooth

Soil Temperature: 58 F

Soil Moisture: SLIDRY slightly dry

Emergence Date: May-1-2019

Pest Description

Pest 1 Type: W **Code:** ABUTH Abutilon theophrasti

Common Name: velvetleaf

Entry Date: May-29-2019

Pest 2 Type: W **Code:** CHEAL Chenopodium album

Common Name: common lambsquarters

Entry Date: May-29-2019

Pest 3 Type: W **Code:** AMBTR Ambrosia trifida

Common Name: Giant ragweed

Entry Date: May-29-2019

Pest 4 Type: W **Code:** SETFA Setaria faberi

Common Name: Giant foxtail

Entry Date: May-29-2019

Pest 5 Type: W **Code:** ECHCG Echinochloa crus-galli

Common Name: Common barnyard grass **Entry Date:** Jun-7-2019

Site and Design

Treated Plot Width: 10 FT

Site Type: FIELD field

Treated Plot Length: 30 FT

Experimental Unit: 1 PLOT plot

Treated Plot Area: 300 FT2 **Treatments:** 8

Tillage Type: CONTIL conventional-till

Replications: 4

Study Design: RACOB� Randomized Complete Block (RCB)

Previous

No. Crop Year

1. SOYBEAN 2018

Field Prep./Maintenance:

Fall chisel, spring finishing tool and cultipacker

Soil Description

Description Name: Big E

% Sand: 44 **% OM:** 3.1 **Texture:** L loam

% Silt: 45 **pH:** 6.6 **Soil Name:** Kokomo

% Clay: 11 **CEC:** 15.2 **Fert. Level:** G good

Soil Drainage: G good

Application Description

	A	B
Application Date	Apr-13-2019	May-29-2019
Appl. Start Time	8:00 AM	8:15 AM
Appl. Stop Time	8:15 AM	8:45 AM
Application Method	SPRAY	SPRAY
Application Timing	PRE	POEMCR
Application Placement	BROSOL	BANFOL
Applied By	Dobbels	kiley
Appl. Entry Date	Apr-15-2019	May-29-2019
Air Temperature Start, Stop	43 44 F	72 73 F
% Relative Humidity Start, Stop	77 77	82 83
Wind Velocity+Dir. Start	3 MPH W	11 MPH SW
Wind Velocity+Dir. Stop	3 MPH W	12 MPH SW
Wind Velocity+Dir. Max	3 MPH W	11 MPH SW
Wet Leaves (Y/N)	N no	N no
Soil Temperature	46 F	69 F
Soil Moisture	DRY	SLIWET
Soil Surface Condition	SMOOTH	SMOOTH
% Cloud Cover	20	80
Next Moisture Occurred On	Apr-14-2019	May-29-2019
Time to Next Moisture	1 DAY	1 DAY
Moisture 6 Hours after Appl.	0 IN	0 IN
Moisture 1 Week after Appl.	2.35 IN	0.66 IN

Comment:

Slight drizzle about 30 minutes after application B, did not seem to effect weed control.

Crop Stage At Each Application

	A		B	
Crop 1 Code, BBCH Scale	ZEAMX	BCOR	ZEAMX	BCOR
Days after Emergence	-18		28	
Stage Majority, Percent			V4	100
Average Diameter			12	IN

Pest Stage At Each Application

	A		B	
Pest 1 Code, Type, Scale	ABUTH	W	ABUTH	W
Stage Majority, Percent			12	100
Height Average			1.5	in
Height Minimum, Maximum			1	2
Density Average			3	M2
Density Min, Max			4	8
Pest 2 Code, Type, Scale	CHEAL	W	CHEAL	W
Stage Majority, Percent			12	80
Stage Minimum, Percent			12	80
Stage Maximum, Percent			14	20
Height Average			1	in
Height Minimum, Maximum			1	2
Pest 3 Code, Type, Scale	AMBTR	W	AMBTR	W
Stage Majority, Percent			16	80
Stage Minimum, Percent			16	80
Stage Maximum, Percent			19	20
Height Average			12	in
Height Minimum, Maximum			6	14
Density Average			18	M2
Density Min, Max			12	24
Pest 4 Code, Type, Scale	SETFA	W	SETFA	W
Stage Majority, Percent			12	100
Height Average			1.5	in
Height Minimum, Maximum			1	2
Density Average			10	M2
Density Min, Max			12	16
Pest 5 Code, Type, Scale	ECHCG	W	ECHCG	W
Stage Majority, Percent			12	100
Height Average			1.5	IN
Height Minimum, Maximum			1	2
Density Average			3	M2

Application Equipment

	A	B
Appl. Equipment	10' AI XR	10' AI XR
Equipment Type	SPRBAC	SPRBAC
Operation Pressure	42 PSI	42 PSI
Nozzle Type	AI XR	AI XR
Nozzle Size	110015	110015
Nozzle Spacing	18 IN	18 IN
Boom Length	10 FT	10 FT
Boom Height	20 IN	20 IN
Ground Speed	3 MPH	3 MPH
Carrier	WATER	WATER
Application Amount	15 GPA	15 GPA
Mix Size	2 Liters	2 Liters
Propellant	COMCO2	COMCO2

Date	By	Context	Notes
Feb-26-2019	Dr. Mark M. Loux	STATUS	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
May-28-2019	Dr. Mark M. Loux	STATUS	Automatically added by ARM: Trial Status updated to 'E' when Rating Date entered.

SE Definitions

1. Crop Type, Code C

Instructions:

For Shieldex, Status, Impact, Laudis postemergence applications. 1% v/v MSO plus AMS spray grade at 8.5 lbs/100 gallon spray solution

For Callisto use NIS 0.25% v/v plus AMS spray grade at 8.5 lbs/100 gallons spray solution for postemergence applications.

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	SETFA	AMBTR	CHEAL	ABUTH	SETFA
Pest Name	Giant foxtail	Giant ragweed	common lambsqu>	velvetleaf	Giant foxtail
Crop Type, Code	C -	C -	C -	C - C	ZEAMX
Crop Name					Corn
Rating Date	May-28-2019	May-28-2019	May-28-2019	May-28-2019	Jun-5-2019
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Data Entry Date	May-28-2019	May-28-2019	May-28-2019	May-28-2019	Jun-5-2019
Days After First/Last Applic.	45 45	45 45	45 45	45 45	53 7
Trt-Eval Interval	45 DA-A	45 DA-A	45 DA-A	45 DA-A	7 DA-B
Days After Emergence	27 DE-1	27 DE-1	27 DE-1	27 DE-1	35 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Code	1*	2*	3*	4*	5*	6*
1	Bicep-6	1.67 qt/a	2800 g ai/ha		A	95 -	30 -	95 -	30 -	0 -	78
2	Bicep-6	1.67 qt/a	2800 g ai/ha		A	95 -	30 -	95 -	30 -	0 -	100 -
	2 Shieldex	1 fl oz/a	29 g ai/ha		B						
	2 Atrazine	0.5 lb ai/a	560 g ai/ha		B						
	2 MSO	1 % v/v	1 % v/v		B						
	2 N Pak AMS	2.5 % v/v	1.5 qt/a		B						
3	Bicep-6	1.67 qt/a	2800 g ai/ha		A	95 -	30 -	95 -	30 -	0 -	100 -
	3 Shieldex	1.3 fl oz/a	37.6 g ai/ha		B						
	3 Atrazine	0.5 lb ai/a	560 g ai/ha		B						
	3 MSO	1 % v/v	1 % v/v		B						
	3 N Pak AMS	2.5 % v/v	1.5 qt/a		B						
4	Bicep-6	1.67 qt/a	2800 g ai/ha		A	95 -	30 -	95 -	30 -	0 -	100 -
	4 Impact	1 fl oz/a	24.5 g ai/ha		B						
	4 Atrazine	0.5 lb ai/a	560 g ai/ha		B						
	4 MSO	1 % v/v	1 % v/v		B						
	4 N Pak AMS	2.5 % v/v	1.5 qt/a		B						

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	ECHCG	AMBTR	CHEAL	AMARE	ABUTH
Pest Name	Common barnyar>	Giant ragweed	common lambsqu>	Redroot pigweed	velvetleaf
Crop Type, Code	C -	C -	C -	C -	C -
Crop Name					
Rating Date	Jun-11-2019	Jun-11-2019	Jun-11-2019	Jun-11-2019	Jun-11-2019
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Data Entry Date	Jun-13-2019	Jun-13-2019	Jun-13-2019	Jun-13-2019	Jun-13-2019
Days After First/Last Applic.	59 13	59 13	59 13	59 13	59 13
Trt-Eval Interval	13 DA-B	13 DA-B	13 DA-B	13 DA-B	13 DA-B
Days After Emergence	41 DE-1	41 DE-1	41 DE-1	41 DE-1	41 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit Code	7*	8*	9*	10*	11*
1	Bicep-6	1.67 qt/a	2800 g ai/ha		A	63	23 b	95	90	55
2	Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 -	89 a	100 -	100 -	100 -
	2 Shieldex	1 fl oz/a	29 g ai/ha		B					
	2 Atrazine	0.5 lb ai/a	560 g ai/ha		B					
	2 MSO	1 % v/v	1 % v/v		B					
	2 N Pak AMS	2.5 % v/v	1.5 qt/a		B					
3	Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 -	86 a	100 -	100 -	100 -
	3 Shieldex	1.3 fl oz/a	37.6 g ai/ha		B					
	3 Atrazine	0.5 lb ai/a	560 g ai/ha		B					
	3 MSO	1 % v/v	1 % v/v		B					
	3 N Pak AMS	2.5 % v/v	1.5 qt/a		B					
4	Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 -	85 a	100 -	100 -	100 -
	4 Impact	1 fl oz/a	24.5 g ai/ha		B					
	4 Atrazine	0.5 lb ai/a	560 g ai/ha		B					
	4 MSO	1 % v/v	1 % v/v		B					
	4 N Pak AMS	2.5 % v/v	1.5 qt/a		B					

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	ECHCG	AMBTR	CHEAL	AMARE	ABUTH
Pest Name	Common barnyar>	Giant ragweed	common lambsqu>	Redroot pigweed	velvetleaf
Crop Type, Code	C -	C -	C -	C -	C -
Crop Name					
Rating Date	Jun-11-2019	Jun-11-2019	Jun-11-2019	Jun-11-2019	Jun-11-2019
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Data Entry Date	Jun-13-2019	Jun-13-2019	Jun-13-2019	Jun-13-2019	Jun-13-2019
Days After First/Last Applic.	59 13	59 13	59 13	59 13	59 13
Trt-Eval Interval	13 DA-B	13 DA-B	13 DA-B	13 DA-B	13 DA-B
Days After Emergence	41 DE-1	41 DE-1	41 DE-1	41 DE-1	41 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Code	7*	8*	9*	10*	11*
5	Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 -	88 a	100 -	100 -	100 -
5	Laudis	3 fl oz/a	92 g ai/ha		B					
5	Atrazine	0.5 lb ai/a	560 g ai/ha		B					
5	MSO	1 % v/v	1 % v/v		B					
5	N Pak AMS	2.5 % v/v	1.5 qt/a		B					
6	Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 -	77 a	100 -	100 -	100 -
6	Calisto	3 fl oz/a	105 g ai/ha		B					
6	Atrazine	0.5 lb ai/a	560 g ai/ha		B					
6	NIS	0.25 % v/v	0.25 % v/v		B					
6	N Pak AMS	2.5 % v/v	1.5 qt/a		B					
7	Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 -	74 a	100 -	100 -	100 -
7	Shieldex	1.3 fl oz/a	37.6 g ai/ha		B					
7	Roundup Powermax	32 fl oz/a	1260 g ai/ha		B					
7	N Pak AMS	2.5 % v/v	1.5 qt/a		B					
8	Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 -	85 a	100 -	100 -	100 -
8	Shieldex	1.3 fl oz/a	37.6 g ai/ha		B					
8	Liberty	32 fl oz/a	656 g ai/ha		B					
8	N Pak AMS	2.5 % v/v	1.5 qt/a		B					
LSD P=.05						.	11.6	.	.	.
Standard Deviation						0.0	7.9	0.0	0.0	0.0
CV						0.0	10.45	0.0	0.0	0.0
Levene's F						0.00	1.552	0.00	0.00	0.00
Levene's Prob(F)						.	0.198	.	.	.
Skewness						.	-2.1618*	.	.	.
Kurtosis						.	4.1013*	.	.	.
Replicate F						0.000	1.808	0.000	0.000	0.000
Replicate Prob(F)						1.0000	0.1766	1.0000	1.0000	1.0000
Treatment F						0.000	31.305	0.000	0.000	0.000
Treatment Prob(F)						1.0000	0.0001	1.0000	1.0000	1.0000

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	SETFA	ECHCG	AMBTR	CHEAL	AMARE
Pest Name	Giant foxtail	Common barnyar>	Giant ragweed	common lambsqu>	Redroot pigweed
Crop Type, Code	C -	C -	C -	C -	C -
Crop Name					
Rating Date	Jun-25-2019	Jun-25-2019	Jun-25-2019	Jun-25-2019	Jun-25-2019
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit	%	%	%	%	%
Number of Subsamples	1	1	1	1	1
Data Entry Date	Jun-25-2019	Jun-25-2019	Jun-25-2019	Jun-25-2019	Jun-25-2019
Days After First/Last Applic.	73 27	73 27	73 27	73 27	73 27
Trt-Eval Interval	27 DA-B	27 DA-B	27 DA-B	27 DA-B	27 DA-B
Days After Emergence	55 DE-1	55 DE-1	55 DE-1	55 DE-1	55 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Unit	Unit Code	12*	13*	14*	15*	16*
1	Bicep-6	1.67 qt/a	2800 g ai/ha			A	73 c	62 b	43	100 -	68
2	Bicep-6	1.67 qt/a	2800 g ai/ha			A	97 ab	99 a	81 a	100 -	100 -
	2 Shieldex	1 fl oz/a	29 g ai/ha			B					
	2 Atrazine	0.5 lb ai/a	560 g ai/ha			B					
	2 MSO	1 % v/v	1 % v/v			B					
	2 N Pak AMS	2.5 % v/v	1.5 qt/a			B					
3	Bicep-6	1.67 qt/a	2800 g ai/ha			A	99 a	100 a	75 a	100 -	100 -
	3 Shieldex	1.3 fl oz/a	37.6 g ai/ha			B					
	3 Atrazine	0.5 lb ai/a	560 g ai/ha			B					
	3 MSO	1 % v/v	1 % v/v			B					
	3 N Pak AMS	2.5 % v/v	1.5 qt/a			B					
4	Bicep-6	1.67 qt/a	2800 g ai/ha			A	100 a	100 a	78 a	100 -	100 -
	4 Impact	1 fl oz/a	24.5 g ai/ha			B					
	4 Atrazine	0.5 lb ai/a	560 g ai/ha			B					
	4 MSO	1 % v/v	1 % v/v			B					
	4 N Pak AMS	2.5 % v/v	1.5 qt/a			B					

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed					
Pest Code	SETFA	ECHCG	AMBTR	CHEAL	AMARE					
Pest Name	Giant foxtail	Common barnyar>	Giant ragweed	common lambsqu>	Redroot pigweed					
Crop Type, Code	C -	C -	C -	C -	C -					
Crop Name										
Rating Date	Jun-25-2019	Jun-25-2019	Jun-25-2019	Jun-25-2019	Jun-25-2019					
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO					
Rating Unit	%	%	%	%	%					
Number of Subsamples	1	1	1	1	1					
Data Entry Date	Jun-25-2019	Jun-25-2019	Jun-25-2019	Jun-25-2019	Jun-25-2019					
Days After First/Last Applic.	73 27	73 27	73 27	73 27	73 27					
Trt-Eval Interval	27 DA-B	27 DA-B	27 DA-B	27 DA-B	27 DA-B					
Days After Emergence	55 DE-1	55 DE-1	55 DE-1	55 DE-1	55 DE-1					
Number of Decimals	0	0	0	0	0					
Trt No.	Treatment Name	Rate	Other	Other	Appl	12*	13*	14*	15*	16*
Rate Unit	Rate Unit	Rate Unit	Rate Unit	Code						
5	Bicep-6	1.67 qt/a	2800 g ai/ha	A		97 ab	97 a	76 a	100 -	100 -
5	Laudis	3 fl oz/a	92 g ai/ha	B						
5	Atrazine	0.5 lb ai/a	560 g ai/ha	B						
5	MSO	1 % v/v	1 % v/v	B						
5	N Pak AMS	2.5 % v/v	1.5 qt/a	B						
6	Bicep-6	1.67 qt/a	2800 g ai/ha	A		84 bc	81 b	78 a	100 -	100 -
6	Calisto	3 fl oz/a	105 g ai/ha	B						
6	Atrazine	0.5 lb ai/a	560 g ai/ha	B						
6	NIS	0.25 % v/v	0.25 % v/v	B						
6	N Pak AMS	2.5 % v/v	1.5 qt/a	B						
7	Bicep-6	1.67 qt/a	2800 g ai/ha	A		98 ab	98 a	64 b	100 -	100 -
7	Shieldex	1.3 fl oz/a	37.6 g ai/ha	B						
7	Roundup Powermax	32 fl oz/a	1260 g ai/ha	B						
7	N Pak AMS	2.5 % v/v	1.5 qt/a	B						
8	Bicep-6	1.67 qt/a	2800 g ai/ha	A		97 ab	98 a	75 a	100 -	100 -
8	Shieldex	1.3 fl oz/a	37.6 g ai/ha	B						
8	Liberty	32 fl oz/a	656 g ai/ha	B						
8	N Pak AMS	2.5 % v/v	1.5 qt/a	B						
LSD P=.05		6.4 - 15.7	7.5 - 20.0	8.6						
Standard Deviation		8.0t	8.8t	5.8					0.0	0.0
CV		10.33t	11.37t	7.69					0.0	0.0
Levene's F		0.889	0.625	0.692					0.00	0.00
Levene's Prob(F)		0.53	0.73	0.658					.	.
Skewness		-0.6844	-1.1845*	-0.3996					.	.
Kurtosis		-0.3209	1.3289	-0.1206					.	.
Replicate F		0.952	1.645	2.722					0.000	0.000
Replicate Prob(F)		0.4333	0.2093	0.0748					1.0000	1.0000
Treatment F		5.978	8.068	3.644					0.000	0.000
Treatment Prob(F)		0.0006	0.0001	0.0152					1.0000	1.0000

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed					
Pest Code	ABUTH	SETFA	ECHCG	AMBTR	CHEAL					
Pest Name	velvetleaf	Giant foxtail	Common barnyar>	Giant ragweed	common lambsqu>					
Crop Type, Code	C -	C -	C -	C -	C -					
Crop Name										
Rating Date	Jun-25-2019	Jul-9-2019	Jul-9-2019	Jul-9-2019	Jul-9-2019					
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO					
Rating Unit	%	%	%	%	%					
Number of Subsamples	1	1	1	1	1					
Data Entry Date	Jun-25-2019	Jul-9-2019	Jul-9-2019	Jul-9-2019	Jul-9-2019					
Days After First/Last Applic.	73 27	87 41	87 41	87 41	87 41					
Trt-Eval Interval	27 DA-B	41 DA-B	41 DA-B	41 DA-B	41 DA-B					
Days After Emergence	55 DE-1	69 DE-1	69 DE-1	69 DE-1	69 DE-1					
Number of Decimals	0	0	0	0	0					
Trt No.	Treatment Name	Rate Rate Unit	Other Rate	Other Rate Unit	Appl Code	17*	18*	19*	20*	21*
1	Bicep-6	1.67 qt/a	2800 g ai/ha		A	33 b	55 c	48 b	13	100 -
2	Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 a	96 ab	95 a	80 -	99
	2 Shieldex	1 fl oz/a	29 g ai/ha		B					
	2 Atrazine	0.5 lb ai/a	560 g ai/ha		B					
	2 MSO	1 % v/v	1 % v/v		B					
	2 N Pak AMS	2.5 % v/v	1.5 qt/a		B					
3	Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 a	100 a	99 a	84 -	100 -
	3 Shieldex	1.3 fl oz/a	37.6 g ai/ha		B					
	3 Atrazine	0.5 lb ai/a	560 g ai/ha		B					
	3 MSO	1 % v/v	1 % v/v		B					
	3 N Pak AMS	2.5 % v/v	1.5 qt/a		B					
4	Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 a	99 a	98 a	86 -	100 -
	4 Impact	1 fl oz/a	24.5 g ai/ha		B					
	4 Atrazine	0.5 lb ai/a	560 g ai/ha		B					
	4 MSO	1 % v/v	1 % v/v		B					
	4 N Pak AMS	2.5 % v/v	1.5 qt/a		B					

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed				
Pest Code	ABUTH	SETFA	ECHCG	AMBTR	CHEAL				
Pest Name	velvetleaf	Giant foxtail	Common barnyar>	Giant ragweed	common lambsqu>				
Crop Type, Code	C -	C -	C -	C -	C -				
Crop Name									
Rating Date	Jun-25-2019	Jul-9-2019	Jul-9-2019	Jul-9-2019	Jul-9-2019				
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit	%	%	%	%	%				
Number of Subsamples	1	1	1	1	1				
Data Entry Date	Jun-25-2019	Jul-9-2019	Jul-9-2019	Jul-9-2019	Jul-9-2019				
Days After First/Last Applic.	73 27	87 41	87 41	87 41	87 41				
Trt-Eval Interval	27 DA-B	41 DA-B	41 DA-B	41 DA-B	41 DA-B				
Days After Emergence	55 DE-1	69 DE-1	69 DE-1	69 DE-1	69 DE-1				
Number of Decimals	0	0	0	0	0				
Trt Treatment No. Name	Rate Rate Unit	Other Rate	Other Rate Unit	Appl Code	17*	18*	19*	20*	21*
5 Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 a	100 a	99 a	89 -	100 -
5 Laudis	3 fl oz/a	92 g ai/ha		B					
5 Atrazine	0.5 lb ai/a	560 g ai/ha		B					
5 MSO	1 % v/v	1 % v/v		B					
5 N Pak AMS	2.5 % v/v	1.5 qt/a		B					
6 Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 a	86 b	85 a	81 -	100 -
6 Calisto	3 fl oz/a	105 g ai/ha		B					
6 Atrazine	0.5 lb ai/a	560 g ai/ha		B					
6 NIS	0.25 % v/v	0.25 % v/v		B					
6 N Pak AMS	2.5 % v/v	1.5 qt/a		B					
7 Bicep-6	1.67 qt/a	2800 g ai/ha		A	99 a	90 ab	89 a	76 -	100 -
7 Shieldex	1.3 fl oz/a	37.6 g ai/ha		B					
7 Roundup Powermax	32 fl oz/a	1260 g ai/ha		B					
7 N Pak AMS	2.5 % v/v	1.5 qt/a		B					
8 Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 a	95 ab	86 a	80 -	100 -
8 Shieldex	1.3 fl oz/a	37.6 g ai/ha		B					
8 Liberty	32 fl oz/a	656 g ai/ha		B					
8 N Pak AMS	2.5 % v/v	1.5 qt/a		B					
LSD P=.05	2.9	5.3 - 17.5			11.3		8.9		.
Standard Deviation	1.9	7.1t			7.7		6.0		0.0
CV	2.12	9.49t			8.79		7.26		0.0
Levene's F	0.886	1.668			1.595		1.482		0.00
Levene's Prob(F)	0.533	0.165			0.185		0.232		.
Skewness	-2.3952*	-0.6816			-1.7664*		-0.0529		.
Kurtosis	4.039*	-0.4286			2.4719*		-0.4428		.
Replicate F	1.317	3.437			5.051		1.267		0.000
Replicate Prob(F)	0.2954	0.0355			0.0086		0.3157		1.0000
Treatment F	603.297	13.159			19.618		2.005		0.000
Treatment Prob(F)	0.0001	0.0001			0.0001		0.1182		1.0000

Pest Type	W Weed	W Weed
Pest Code	AMARE	ABUTH
Pest Name	Redroot pigweed	velvetleaf
Crop Type, Code	C -	C -
Crop Name		
Rating Date	Jul-9-2019	Jul-9-2019
Rating Type	CONTRO	CONTRO
Rating Unit	%	%
Number of Subsamples	1	1
Data Entry Date	Jul-9-2019	Jul-9-2019
Days After First/Last Applic.	87 41	87 41
Trt-Eval Interval	41 DA-B	41 DA-B
Days After Emergence	69 DE-1	69 DE-1
Number of Decimals	0	0

Trt No.	Treatment Name	Rate	Other Rate	Other Rate	Appl Unit Code	22*	23*
1	Bicep-6	1.67 qt/a	2800 g ai/ha		A	58 b	0 b
2	Bicep-6	1.67 qt/a	2800 g ai/ha		A	99 a	96 a
	2 Shieldex	1 fl oz/a	29 g ai/ha		B		
	2 Atrazine	0.5 lb ai/a	560 g ai/ha		B		
	2 MSO	1 % v/v	1 % v/v		B		
	2 N Pak AMS	2.5 % v/v	1.5 qt/a		B		
3	Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 a	100 a
	3 Shieldex	1.3 fl oz/a	37.6 g ai/ha		B		
	3 Atrazine	0.5 lb ai/a	560 g ai/ha		B		
	3 MSO	1 % v/v	1 % v/v		B		
	3 N Pak AMS	2.5 % v/v	1.5 qt/a		B		
4	Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 a	100 a
	4 Impact	1 fl oz/a	24.5 g ai/ha		B		
	4 Atrazine	0.5 lb ai/a	560 g ai/ha		B		
	4 MSO	1 % v/v	1 % v/v		B		
	4 N Pak AMS	2.5 % v/v	1.5 qt/a		B		

Pest Type	W Weed	W Weed
Pest Code	AMARE	ABUTH
Pest Name	Redroot pigweed	velvetleaf
Crop Type, Code	C -	C -
Crop Name		
Rating Date	Jul-9-2019	Jul-9-2019
Rating Type	CONTRO	CONTRO
Rating Unit	%	%
Number of Subsamples	1	1
Data Entry Date	Jul-9-2019	Jul-9-2019
Days After First/Last Applic.	87 41	87 41
Trt-Eval Interval	41 DA-B	41 DA-B
Days After Emergence	69 DE-1	69 DE-1
Number of Decimals	0	0

Trt No.	Treatment Name	Rate	Other Rate	Other Rate Unit	Appl Code	22*	23*
5	Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 a	100 a
5	Laudis	3 fl oz/a	92 g ai/ha		B		
5	Atrazine	0.5 lb ai/a	560 g ai/ha		B		
5	MSO	1 % v/v	1 % v/v		B		
5	N Pak AMS	2.5 % v/v	1.5 qt/a		B		
6	Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 a	100 a
6	Calisto	3 fl oz/a	105 g ai/ha		B		
6	Atrazine	0.5 lb ai/a	560 g ai/ha		B		
6	NIS	0.25 % v/v	0.25 % v/v		B		
6	N Pak AMS	2.5 % v/v	1.5 qt/a		B		
7	Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 a	100 a
7	Shieldex	1.3 fl oz/a	37.6 g ai/ha		B		
7	Roundup Powermax	32 fl oz/a	1260 g ai/ha		B		
7	N Pak AMS	2.5 % v/v	1.5 qt/a		B		
8	Bicep-6	1.67 qt/a	2800 g ai/ha		A	100 a	100 a
8	Shieldex	1.3 fl oz/a	37.6 g ai/ha		B		
8	Liberty	32 fl oz/a	656 g ai/ha		B		
8	N Pak AMS	2.5 % v/v	1.5 qt/a		B		
LSD P=.05						14.9	3.9
Standard Deviation						10.1	2.7
CV						10.73	3.05
Levene's F						1.911	1.00
Levene's Prob(F)						0.112	0.455
Skewness						-2.9517*	-2.354*
Kurtosis						7.2792*	3.8226*
Replicate F						1.081	1.000
Replicate Prob(F)						0.3787	0.4123
Treatment F						8.714	704.492
Treatment Prob(F)						0.0001	0.0001

2019 Shieldex Visibility Protocol

Trial ID: 19SHIELDEX Location: Trial Year: 2019
Protocol ID: Investigator: Dr. Mark M. Loux
Project ID: Study Director: Chuck Foresman
Sponsor Contact: Chuck Foresman

Pest Type

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

Pest Code

SETFA, Setaria faberi, Giant foxtail = US
AMBTR, Ambrosia trifida, Giant ragweed = US
CHEAL, Chenopodium album, common lambsquarters = US
ABUTH, Abutilon theophrasti, velvetleaf = US
ECHCG, Echinochloa crus-galli, Common barnyard grass = US
AMARE, Amaranthus retroflexus, Redroot pigweed = US

Crop Type, Code

C, G-ByrC7 = EPPO species (Bayer) codes
ZEAMX, BCOR, Zea mays, Corn = US

Rating Type

CONTRO = control / burndown or knockdown
PHYGEN = phytotoxicity - general / injury

Rating Unit

% = percent