The Ohio State University

CORN HERBICIDE TWO PASS PROGRAMS
Trial ID: 18BASF2PASS Location: Trial Year: 2018
Protocol ID: MKD-H-2018-US-C52-A-01.0 Investigator: Dr. Mark M. Loux
Project ID: Study Director: Daniel Waldstein
Sponsor Contact:

General Trial Information

Study Director: Daniel Waldstein
Investigator: Dr. Mark M. Loux

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 °: 39.85939 N
Longitude of LL Corner °: 83.67445 W
Altitude of LL Corner, Unit: 1088.00 FT

Conducted Under GLP: No
Conducted Under GEP: No

Objectives:
1. Compare efficacy of BASF and competitors 2 pass programs.

Contacts

Study Director: Daniel Waldstein

Investigator: Dr. Mark M. Loux

Crop Description

Corn

Crop 1: ZEAMX Zea mays
Variety: SCS1125YHR
Description: Seed Consultants RR/LL 112

Planting Rate, Unit: 32097 S/A
Depth, Unit: 2 IN
Row Spacing, Unit: 30 IN

Planting Date: Apr-29-2018
Planting Method: PLANTD planted
Planting Equipment: FPP finger pickup planter
Emergence Date: May-10-2018
Harvest Date: Oct-2-2018
Harvested Width, Unit: 5 FT
Harvested Length, Unit: 30 FT
Harvest Equipment: Massey 8 XP
% Standard Moisture: 15
Moisture Meter: Mirrus by Havest Master
Weighing Equipment: Mirrus by Harvest Master

Soil Temperature, Unit: 58 F
Soil Moisture: SLIWET slightly wet, moist
Seed Bed: CLODDY cloddy

Pest Description

Pest 1 Type: W **Code:** SETFA Setaria faberi
Common Name: Giant foxtail

Pest 2 Type: W **Code:** AMBTR Ambrosia trifida
Common Name: Giant ragweed

Pest 3 Type: W **Code:** CHEAL Chenopodium album
Common Name: common lambsquarters

Pest 4 Type: W **Code:** AMARE Amaranthus retroflexus
Common Name: Redroot pigweed

Pest 5 Type: W **Code:** ABUTH Abutilon theophrasti
Common Name: velvetleaf

Pest 6 Type: W **Code:** IPOHE Ipomoea hederacea
Common Name: ivy-leaf morning glory

Pest 7 Type: W **Code:** SIDSP Sida spinosa
Common Name: Prickly sida

Pest 8 Type: W **Code:** ECHCG Echinochloa crus-galli
Common Name: Common barnyard grass

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: CONTIL conventional-till
Study Design: RACOBL Randomized Complete Block (RCB)

No. Previous Crop Year
1. Soybean 2017

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Soil Description

Description Name: G-6
% Sand: 32 **% OM:** 2.2 **Texture:** SICL silty clay loam
% Silt: 53 **pH:** 5.9 **Soil Name:** Kokomo
% Clay: 15 **CEC:** 14.8 **Fert. Level:** G good
Soil Drainage: G good

Application Description

	A	B
Application Date:	Apr-30-2018	May-24-2018
Appl. Start Time:	10:15 AM	8:50 AM
Appl. Stop Time:	10:30 AM	9:00 AM
Application Method:	SPRAY	SPRAY
Application Timing:	VA	NA3
Application Placement:	BROSOI	BROFOL
Applied By:	Lamb	Ackley,Lamb
Air Temperature, Unit:	60 F	60 F
% Relative Humidity:	35	52
Wind Velocity, Unit:	4 MPH	2 MPH
Wind Direction:	SW	N
Dew Presence (Y/N):	N no	N no
Soil Temperature, Unit:	50 F	58 F
Soil Moisture:	MOIST	NORMAL
% Cloud Cover:	30	5
Next Moisture Occurred On:	May-3-2018	May-26-2018
Time to Next Moisture, Unit:	3 DAY	2 DAY
Moisture 1 Week after Appl.:	0.71 IN	0.55 IN

Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	ZEAMX BCOR	ZEAMX BCOR
Stage Scale Used:		BBCH
Stage Majority, Percent:		14 100
Height, Unit:		10.5 IN
Height Minimum, Maximum:		10 11

Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	SETFA W	SETFA W
Stage Majority, Percent:		14 100
Height, Unit:		6 IN
Height Minimum, Maximum:		5 8
Density, Unit:		157 m2
Pest 2 Code, Type, Scale:	AMBTR W	AMBTR W
Stage Majority, Percent:		14 100
Height, Unit:		4 IN
Height Minimum, Maximum:		2.5 6
Density, Unit:		12 m2
Pest 3 Code, Type, Scale:	CHEAL W	CHEAL W
Stage Majority, Percent:		14 100
Height, Unit:		1 IN
Height Minimum, Maximum:		0.5 1.5
Density, Unit:		11 m2
Pest 4 Code, Type, Scale:	AMARE W	AMARE W
Stage Majority, Percent:		16 100
Height, Unit:		1 IN
Height Minimum, Maximum:		0.5 2
Density, Unit:		16 m2
Pest 5 Code, Type, Scale:	ABUTH W	ABUTH W
Stage Majority, Percent:		14 100
Height Minimum, Maximum:		1.5 4
Density, Unit:		7 m2
Pest 6 Code, Type, Scale:	IPOHE W	IPOHE W
Stage Majority, Percent:		13 100
Height, Unit:		3 IN
Height Minimum, Maximum:		2.5 4
Density, Unit:		7 m2
Pest 7 Code, Type, Scale:	SIDSP W	SIDSP W
Stage Majority, Percent:		13 100
Height, Unit:		1 IN
Height Minimum, Maximum:		0.5 2
Pest 8 Code, Type, Scale:	ECHCG W	ECHCG W
Density, Unit:		88 m2

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Application Equipment

	A	B
Appl. Equipment:	6 foot TTI	6 FT AIXR
Equipment Type:	SPRBAC	SPRBAC
Operation Pressure, Unit:	42 PSI	42 PSI
Nozzle Type:	TTI	AIXR
Nozzle Size:	110015	110015
Nozzle Spacing, Unit:	18 IN	18 IN
Boom Length, Unit:	6.67 FT	6.67 FT
Boom Height, Unit:	20 IN	20 IN
Ground Speed, Unit:	3 MPH	3 MPH
Carrier:	WATER	WATER
Spray Volume, Unit:	15 GPA	15 GPA
Mix Size, Unit:	1 L	1 L
Propellant:	COMCO2	CO2

Pest Type					
Pest Code					
Pest Scientific Name					
Pest Name					
Crop Code		ZEAMX	ZEAMX	ZEAMX	ZEAMX
Crop Name		Corn	Corn	Corn	Corn
Rating Date		Oct-2-2018	Oct-2-2018	Oct-2-2018	Oct-2-2018
Rating Type		WEIGHT	MOICON	YIELD	WEITES
Rating Unit		LBS	%	BU	LBS/BU
Sample Size, Unit		2 ROW	1 Q	1 A	1 1 QT
Reporting Basis, Unit		1 PLOT	1 BU	1 A	1 BU
Number of Subsamples		3	3	3	3
SE Group No.		32	33	36	34
Days After First/Last Applic.		155 131	155 131	155 131	155 131
Trt-Eval Interval					
Plant-Eval Interval		156 DP-1	156 DP-1	156 DP-1	156 DP-1
Days After Emergence		145 DE-1	145 DE-1	145 DE-1	145 DE-1
ARM Action Codes				TY1	
Number of Decimals		1	1	1	1
Trt No.	Treatment Name	Appl Code	32*	33*	34*	35*
1	CHECK		0.3 b	18.8 -	0.7 b	53.9 -
2	VERDICT	A	53.8 a	19.0 -	266.8 a	54.1 -
2	ARMEZON PRO	B				
2	ATRAZIN 4L	B				
2	ROUNDUP POWERMAX	B				
2	PREFERENCE	B				
2	AMMONIUM SULFATE	B				
3	VERDICT	A	54.9 a	18.7 -	270.4 a	53.3 -
3	STATUS HERBICIDE	B				
3	CALLISTO	B				
3	ROUNDUP POWERMAX	B				
3	PREFERENCE	B				
3	AMMONIUM SULFATE	B				
4	ACURON	A	54.1 a	18.8 -	268.0 a	53.6 -
4	CALLISTO	B				
4	ATRAZIN 4L	B				
4	ROUNDUP POWERMAX	B				
5	RESICORE	A	53.5 a	18.5 -	267.4 a	53.7 -
5	RESICORE	B				
5	ATRAZIN 4L	B				
5	ROUNDUP POWERMAX	B				
6	HARNESS	A	54.8 a	18.6 -	272.3 a	54.4 -
6	CALLISTO	A				
6	HARNESS	B				
6	CALLISTO	B				
6	ATRAZIN 4L	B				
6	ROUNDUP POWERMAX	B				

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Trt No.	Treatment Name	Appl Code	32*	33*	34*	35*
	Pest Type					
	Pest Code					
	Pest Scientific Name					
	Pest Name					
	Crop Code		ZEAMX	ZEAMX	ZEAMX	ZEAMX
	Crop Name		Corn	Corn	Corn	Corn
	Rating Date		Oct-2-2018	Oct-2-2018	Oct-2-2018	Oct-2-2018
	Rating Type		WEIGHT	MOICON	YIELD	WEITES
	Rating Unit		LBS	%	BU	LBS/BU
	Sample Size, Unit		2 ROW	1 Q	1 A	1 1 QT
	Reporting Basis, Unit		1 PLOT	1 BU	1 A	1 BU
	Number of Subsamples		3	3	3	3
	SE Group No.		32	33	36	34
	Days After First/Last Applic.		155 131	155 131	155 131	155 131
	Trt-Eval Interval					
	Plant-Eval Interval		156 DP-1	156 DP-1	156 DP-1	156 DP-1
	Days After Emergence		145 DE-1	145 DE-1	145 DE-1	145 DE-1
	ARM Action Codes				TY1	
	Number of Decimals		1	1	1	1
7	Verdict	A	53.7 a	18.6 -	267.0 a	54.6 -
7	Atrazine	A				
7	Status	B				
7	Roundup Powermax	B				
8	Verdict	A	55.6 a	18.6 -	275.4 a	54.1 -
8	Liberty	B				
8	N Pak AMS	B				
9	Verdict	A	53.7 a	18.8 -	263.7 a	54.1 -
9	Liberty	B				
9	Status	B				
9	N Pak AMS	B				
10	Verdict	A	55.4 a	18.8 -	275.2 a	54.3 -
10	Liberty	B				
10	Atrazine	B				
10	N Pak AMS	B				
	LSD P=.05		3.03	0.84	13.28	1.08
	Standard Deviation		1.76	0.49	7.74	0.63
	CV		3.61	2.6	3.2	1.17
	Levene's F		2.031	0.726	4.215	0.998
	Levene's Prob(F)		0.093	0.681	0.004*	0.474
	Skewness		-2.7041*	-0.507	-2.7062*	-0.5775
	Kurtosis		5.8143*	-0.4095	5.8226*	1.0417
	Randomized Complete Block (RCB) AIC		NA	59.9613	216.4722	70.3135
	Spatial AIC			NA SPa	50.835 SPb	211.1883 SPb 65.786
	Analyzed as		RCB	CRD+SPa	CRD+SPb	CRD+SPb
	Replicate F		0.011	56.134	42.415	240.520
	Replicate Prob(F)		0.9886	0.0001	0.0001	0.0001
	Treatment F		282.256	0.366	358.433	0.919
	Treatment Prob(F)		0.0001	0.9367	0.0001	0.5313

Crop Code
ZEAMX, BCOR, Zea mays, Corn = US
Rating Type
WEIGHT = weight
MOICON = moisture content
YIELD = yield
WEITES = weight - test
Rating Unit
% = percent
BU = bushel

ROW = row
A = acre

PLOT = total plot
BU = bushel
A = acre
Plant-Eval Interval

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156 DP-1 = 1 ZEAMX Apr-29-2018
ARM Action Codes
TY1 = 5.185714*[32]*(100-[33])/85

SPa = Nearest row neighbor
SPb = Nearest column neighbor