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Impact and Impact Z Weed Control Programs in Field Corn

Trial ID: CN-11-18 Trial Year: 2018
Protocol ID: 18C04H096 Investigator: Eric P. Prostko
Project ID: IMPACTZ Study Director: Richard Porter

Reps: 4 Plots: 6 by 25 feet
Spray vol: 15 GAL/AC Mix Size: 1.5 L (total for 4 plots; minimum=0.782 L)

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	Appl Description	Amt Product to Measure	Rep 1	2	3	4
1	Untreated Check											101	203	307	409
2	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	3.6	pt/a	PRE	A	PRE	45.0 mL/mx	102	205	303	410
3	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	3.6	pt/a	PRE	A	PRE	45.0 mL/mx	103	202	309	401
	ImpactZ	4.26	SC	0.356	lb ai/a	10.7	fl oz/a	POST	C	2-4" Weeds	8.356 mL/mx				
	MSO	100	SL	1.0	% v/v			POST	C	2-4" Weeds	15.0 mL/mx				
	N-Pak AMS Liquid	100	L	2.5	% v/v			POST	C	2-4" Weeds	37.5 mL/mx				
4	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	3.6	pt/a	PRE	A	PRE	45.0 mL/mx	104	206	301	408
	ImpactZ	4.26	SC	0.266	lb ai/a	8.0	fl oz/a	POST	C	2-4" Weeds	6.243 mL/mx				
	Roundup PowerMax	4.5	SL	1.13	lb ae/a	32.0	fl oz/a	POST	C	2-4" Weeds	25.11 mL/mx				
	MSO	100	SL	0.5	% v/v			POST	C	2-4" Weeds	7.499 mL/mx				
	N-Pak AMS Liquid	100	L	2.5	% v/v			POST	C	2-4" Weeds	37.5 mL/mx				
5	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	3.6	pt/a	PRE	A	PRE	45.0 mL/mx	105	204	306	405
	ImpactZ	4.26	SC	0.266	lb ai/a	8.0	fl oz/a	POST	C	2-4" Weeds	6.243 mL/mx				
	Liberty 280 SL	2.34	SL	0.53	lb ai/a	29.0	fl oz/a	POST	C	2-4" Weeds	22.65 mL/mx				
	N-Pak AMS Liquid	100	L	2.5	% v/v			POST	C	2-4" Weeds	37.5 mL/mx				
6	Harness	7	EC	1.60	lb ai/a	1.83	pt/a	EPOST	B	E. POST	22.85 mL/mx	106	201	310	402
	IMPACT	2.8	SC	0.0219	lb ai/a	1.0	fl oz/a	EPOST	B	E. POST	0.7821 mL/mx				
	Atrazine	4	F	0.5	lb ai/a	1	pt/a	EPOST	B	E. POST	12.5 mL/mx				
	MSO	100	SL	0.25	% v/v			EPOST	B	E. POST	3.75 mL/mx				
	N-Pak AMS Liquid	100	L	2.5	% v/v			EPOST	B	E. POST	37.5 mL/mx				
7	Harness	7	EC	1.60	lb ai/a	1.83	pt/a	EPOST	B	E. POST	22.85 mL/mx	107	208	305	403
	IMPACT	2.8	SC	0.0164	lb ai/a	0.75	fl oz/a	EPOST	B	E. POST	0.5857 mL/mx				
	Atrazine	4	F	0.5	lb ai/a	1	pt/a	EPOST	B	E. POST	12.5 mL/mx				
	Roundup PowerMax	4.5	SL	1.13	lb ae/a	32.0	fl oz/a	EPOST	B	E. POST	25.11 mL/mx				
	MSO	100	SL	0.25	% v/v			EPOST	B	E. POST	3.75 mL/mx				
	N-Pak AMS Liquid	100	L	2.5	% v/v			EPOST	B	E. POST	37.5 mL/mx				
8	Halex GT	4.39	CS	1.98	lb ai/a	3.6	pt/a	EPOST	B	E. POST	45.1 mL/mx	108	210	304	407
	Atrazine	4	F	0.5	lb ai/a	1	pt/a	EPOST	B	E. POST	12.5 mL/mx				
	NIS	100	SL	0.25	% v/v			EPOST	B	E. POST	3.75 mL/mx				
	N-Pak AMS Liquid	100	L	2.5	% v/v			EPOST	B	E. POST	37.5 mL/mx				
9	ROUNDUP POWERMAX	5.5	SL	1.375	lb ai/a	32.0	oz/a	EPOST	B	EPOST	25.0 mL/mx	109	207	302	404
	Atrazine	4	F	2.0	lb ai/a	64.0	oz/a	EPOST	B	EPOST	49.99 mL/mx				
	PROWL H20	3.8	SC	0.95	lb ai/a	32.0	oz/a	EPOST	B	EPOST	25.0 mL/mx				
	NIS			0.25	% v/v			EPOST	B	EPOST	3.75 mL/mx				
10	REVULIN Q	51.2	DG	0.109	lb ai/a	3.4	oz/a	EPOST	B	EPOST	2.551 g/mx	110	209	308	406
	Atrazine	4	F	2.0	lb ai/a	64.0	oz/a	EPOST	B	EPOST	49.99 mL/mx				
	COC			1.0	% v/v			EPOST	B	EPOST	15.0 mL/mx				

Sort Order: Treatment

Trial Comments

HARNESS XTRA 5.6L = ACETOCHLOR (3.1 LBS) + ATRAZINE (2.5 LBS)
IMPACTZ = TOPRAMEZONE (0.26 LBS) + ATRAZINE (4 LBS)
ARMEZON PRO = TOPRAMEZONE (0.1 LBS) + DIMETHENAMID (5.25 LBS)
HALEX GT = S-METOLACHLOR (2.09 LBS) + GLYPHOSATE (2.09 LBS) + MESOTRIONE (0.209 LBS)

NIS = INDUCE (HELENA)
COC = AGRIDEX (HELENA)
MSO = MES 100 (DREXEL)

HARVEST MOISTURE: 17%
YIELDS ADJUSTED TO 15.5%

SUMMARY:

1) PRE APPLICATIONS OF HARNESS XTRA CAUSED SLIGHT CORN STUNTING (10%).

2) EPOST APPLICATIONS OF HARNESS + IMPACT + ATRAZINE CAUSED SLIGHT CORN STUNTING (9-13%).

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3) WEED CONTROL RATINGS OBTAINED ON JUNE 12 (77 DAP) INDICATED THE FOLLOWING:

A) PALMER AMARANTH CONTROL EXCEEDED 94% WITH AL TREATMENTS.

B) HIGHEST LEVEL OF ANNUAL GRASS CONTROL (93%) WAS OBSERVED WITH STANDARD EPOST ROUNDUP + ATRAZINE + PROWL TREATMENT.

C) 2 LOWEST LEVELS OF ANNUAL GRASS CONTROL WERE OBSERVED WITH PRE HARNESS XTRA (54% CONTROL) AND EPOST HARNESS + IMPACT + ATRAZINE (74% CONTROL) TREATMENTS.

4) CORN YIELDS WERE NOT INFLUENCED BY ANY HERBICIDE TREATMENT (P=0.2836)

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Impact and Impact Z Weed Control Programs in Field Corn

Trial ID: CN-11-18 Trial Year: 2018
Protocol ID: 18C04H096 Investigator: Eric P. Prostko
Project ID: IMPACTZ Study Director: Richard Porter

General Trial Information

Study Director: Richard Porter **Title:** _____
Investigator: Eric P. Prostko **Title:** _____

Discipline: H herbicide
Trial Status: _ **Trial Reliability:** _____
Trial Usage/Type: DEV Development/Registration
Initiation Date: _____ **Planned Completion Date:** Oct-30-18
Completion Date: _____

Trial Location

City: _____ **Country:** USA United States
State/Prov.: _____
Postal Code: _____ **Climate Zone:** _____

Latitude of LL Corner °: _____ _
Longitude of LL Corner °: _____ _
Altitude of LL Corner, Unit: _____ _____
Angle y-axis to North °: _____
Directions:

Conducted Under GLP: No **Official Trial ID:** _____
Conducted Under GEP: No **Other Trial ID:** _____
Study Rules: _____

No.	Guideline	Description
1.		

Keywords:

Objectives:
Evaluate commercial ImpactZ treatments in 1-pass and sequential programs compared to standards.

Conclusions:

Contacts

Study Director: Richard Porter **Title:** _____
Organization: _____
Address: _____ **Phone No.:** _____
City+State/Prov: _____ **Mobile No.:** _____
Postal Code: _____ **E-mail:** _____
Country: ___

Investigator: Eric P. Prostko **Title:** _____
Organization: _____
Address: _____ **Phone No.:** _____
City+State/Prov: _____ **Mobile No.:** _____
Postal Code: _____ **E-mail:** _____
Country: ___

Cooperator/Landowner

Cooperator: _____ **Role:** _____
Organization: _____ **Org. Type:** _____
Address 1: _____ **Address 2:** _____
City: _____ **Phone No.:** _____
State/Prov: _____ **Fax No.:** _____
Postal Code: _____ **Mobile No.:** _____
Country: ___ **E-mail:** _____

Other Contacts

Name	Role	Other

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Crop Description

Crop 1: ZEAMX Zea mays Corn
Variety: PIONEER 1870YHR
Description: Glyphosate & Glufosinate Toler
Seed Size, Unit: _____ _____
Seed Shape: _____
Planting Rate, Unit: 36300 S/A
Depth, Unit: 1.75 IN
Row Spacing, Unit: 36 IN
Spacing within Row, Unit: ____ _____
Rows per Plot: 2
Planting Density, Unit: _____ _____
Soil Temperature, Unit: _____
Soil Moisture: EXCELL excellent
Seed Bed: _____
Perennial Age, Unit: ____ _____

Nursery Date: _____
Planting Date: Mar-27-18
Planting Method: _____
Planting Equipment: _____
Emergence Date: _____
Harvest Date: _____
Harvested Width, Unit: 6 FT
Harvested Length, Unit: 25 FT
Harvest Equipment: _____
% Standard Moisture: 15.5
Moisture Meter: _____
Weighing Equipment: _____

Pest Description

Pest 1 Type: W **Code:** AMAPA Amaranthus palmeri
Common Name: Palmer amaranth
Description: _____
Artificial Population: _ **Establishment Date:** _____
Establishment Rate, Unit: _____ _____
Concentration, Unit: _____ _____
Establishment Method/Description: _____

Pest 2 Type: W **Code:** AGRASS TEXAS PANICUM/CROW/CRAB/GOOSE
Common Name: ANNUAL GRASSES
Description: NON-UNIFORM MIXTURE OF ANNUAL GRASSES
Artificial Population: _ **Establishment Date:** _____
Establishment Rate, Unit: _____ _____
Concentration, Unit: _____ _____
Establishment Method/Description: _____

Site and Design

Treated Plot Width: 6 FT
Treated Plot Length: 25 FT
Treated Plot Area: 150 FT2 **Treatments:** 10
Replications: 4
% Slope: _____

Site Type: FIELD field
Experimental Unit: 4 ROW row
Tillage Type: CONTIL conventional-till
Study Design: RACOBL Randomized Complete Block (RCB)

Trial Initiation Comments:

No.	Previous Crop	Previous Pesticides	Year
1.	COTTON	2017	

Maintenance

No.	Date	Type	Maintenance Product Name	Form Conc	Form Unit	Form Type	Description	Rate	Rate Unit	Tank Mix
1.										

Comment:

Field Prep./Maintenance:
Maintain fertility program for optimum corn growth. Target plant population which simulates commercial corn production in the area.

Soil Description

Description Name: SAND
% Sand: 94 **% OM:** 0.58 **Texture:** _____
% Silt: 2 **pH:** 6.2 **Soil Name:** FUQUAY
% Clay: 4 **CEC:** 2.4 **Fert. Level:** _
Soil Drainage: _
Analyzed By:

Additional Measured Elements

Date	Element	Quantity	Unit

Moisture and Weather Conditions

Overall Moisture Conditions: ABONOR above normal
Closest Weather Station: UGA PONDER FARM **Distance, Unit:** 0.5 MI

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No.	Date	Time	Moisture Total	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Avg Temp	Temp Unit	% Relative Humidity	Min Wind	Max Wind
1.	Mar-29-18		0.4	IN	SPLAMO	sprinkler - lateral move									
2.	Mar-30-18		1.03	IN	RAIN	rain									
3.	Apr-4-18		0.03	IN	RAIN	rain									
4.	Apr-5-18		0.5	IN	SPLAMO	sprinkler - lateral move									
5.	Apr-7-18		0.36	IN	RAIN	rain									
6.	Apr-12-18		0.5	IN	SPLAMO	sprinkler - lateral move									
7.	Apr-15-18		1	IN	RAIN	rain									
8.	Apr-22-18		0.33	IN	RAIN	rain									
9.	Apr-23-18		1.18	IN	RAIN	rain									
10.	May-5-18		0.5	IN	SPLAMO	sprinkler - lateral move									
11.	May-9-18		0.5	IN	SPLAMO	sprinkler - lateral move									

Comment:

Application Description

	A	B	C
Application Date:	Mar-28-18	Apr-17-18	Apr-27-18
Appl. Start Time:	7:30 AM		
Appl. Stop Time:	7:45 AM	8:00 AM	7:34 AM
Application Method:	SPRAY	SPRAY	SPRAY
Application Timing:	PRE	EPOST	POST
Application Placement:	BROSOI	BROFOL	BROFOL
Applied By:	EPP	EPP	EPP
Air Temperature, Unit:	56 F	44 F	56 F
% Relative Humidity:	84	91	100
Wind Velocity, Unit:	0 MPH	1 MPH	1 MPH
Wind Direction:	--		
Dew Presence (Y/N):	Y yes	Y yes	Y yes
Soil Temperature, Unit:	59 F	52 F	63 F
Soil Moisture:	OPTIMUM	OPTIMUM	OPTIMUM
% Cloud Cover:	0	0	5
Next Moisture Occurred On:			
Time to Next Moisture, Unit:			
Moisture 1 Week after Appl.:			

Crop Stage At Each Application

	A	B	C
Crop 1 Code, BBCH Scale:	ZEAMX BCOR	ZEAMX BCOR	ZEAMX BCOR
Stage Scale Used:		DESC	BBCH
Stage Majority, Percent:		V3 4 LF 100	V5 6 LF 100
Stage Minimum, Percent:			
Stage Maximum, Percent:			
Average Diameter, Unit:			
Height, Unit:		4 IN	7 IN
Height Minimum, Maximum:			
Crop coverage (%):			

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Pest Stage At Each Application

	A	B	C
Pest 1 Code, Type, Scale:	AMAPA W	AMAPA W	AMAPA W
Stage Majority, Percent:			
Stage Minimum, Percent:			
Stage Maximum, Percent:			
Diameter, Unit:			
Height, Unit:		0.5 IN	
Height Minimum, Maximum:		0.5 1.0	
Density, Unit:			
Coverage, Unit:			
Pest 2 Code, Type, Scale:	AGRASS W	AGRASS W	AGRASS W
Stage Majority, Percent:			
Stage Minimum, Percent:			
Stage Maximum, Percent:			
Diameter, Unit:			
Height, Unit:		0.75 IN	1.5 IN
Height Minimum, Maximum:		0.5 1.0	1 2
Density, Unit:			
Coverage, Unit:			

Application Equipment

	A	B	C	D
Appl. Equipment:	BOOM	BOOM	BOOM	
Equipment Type:	BACSPR	BACSPR	BACSPR	
Operation Pressure, Unit:	27 PSI	43 PSI	41 PSI	
Nozzle Type:	AIXR	AIXR	AIXR	
Nozzle Size:	11002	11002	11002	
Nozzle Spacing, Unit:	15 IN	20 IN	20 IN	
Nozzles/Row:	2			
Band Width, Unit:				
% Coverage:				
Boom ID:				
Boom Length, Unit:	60 IN	60 IN	60 IN	
Boom Height, Unit:	20 IN	20 IN	20 IN	
Ground Speed, Unit:	3.5 MPH	3.5 MPH	3.5 MPH	
Carrier:	WATER	WATER	WATER	
Water Hardness (ppm CaCO3):				
Spray Volume, Unit:	15 GAL/AC	15 GAL/AC	15 GAL/AC	
Mix Overage, Unit:				
Mix Size, Unit:	1.5 L	1.5 L	1.5 L	
Spray pH:				
Propellant:	COMCO2	COMCO2	COMCO2	
Tank Mix (Y/N):	Y yes	Y yes	Y yes	

Equipment Comment:

Trt No Treatment Application Comment
___

Date By Notes
_____ _____

No. Date By Deviations
1._____ _____

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Reasons:

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Impact and Impact Z Weed Control Programs in Field Corn

Trial ID: CN-11-18 Trial Year: 2018
Protocol ID: 18C04H096 Investigator: Eric P. Prostko
Project ID: IMPACTZ Study Director: Richard Porter

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	1	2	3	4	5
	Pest Type								W Weed	W Weed		W Weed
	Pest Code								AMAPA	AGRASS		AMAPA
	Pest Scientific Name								Amaranthus pal>			Amaranthus pal>
	Pest Name								Palmer amaranth			Palmer amaranth
	Crop Code							ZEAMX			ZEAMX	
	BBCH Scale							BCOR			BCOR	
	Crop Scientific Name							Zea mays			Zea mays	
	Crop Name							Corn			Corn	
	Description							STUNTING	CONTROL	CONTROL	STUNTING	CONTROL
	Part Rated							PLANT C	PLANT C	PLANT P	PLANT C	PLANT C
	Rating Date							Apr-11-18	Apr-11-18	Apr-11-18	Apr-26-18	Apr-26-18
	Rating Type											
	Rating Unit							%	%	%	%	%
	Sample Size, Unit							2 ROW	2 ROW	2 ROW	2 ROW	2 ROW
	Collection Basis, Unit							1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
	Number of Subsamples							1	1	1	1	1
	SE Group No.							7	7	9	9	9
	Days After First/Last Applic.							14 14	14 14	14 14	29 9	29 9
	Trt-Eval Interval							7 DA-C	14 DA-C	0 DA-B	14 DA-B	28 DA-B
	Plant-Eval Interval							15 DP-1	15 DP-1	15 DP-1	30 DP-1	30 DP-1
	ARM Action Codes							s10	s10	S05	S05	S05
	Number of Decimals											
1	Untreated Check							0.0 b	0.0 b	0.0 b	0.0 a	0.0 b
2	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	10.0 a	99.0 a	99.0 a	10.0 a	99.0 a
3	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	10.0 a	99.0 a	99.0 a	10.0 a	99.0 a
	ImpactZ	4.26	SC	0.356	lb ai/a	POST	C					
	MSO	100	SL	1.0	% v/v	POST	C					
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C					
4	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	10.0 a	99.0 a	98.0 a	6.3 a	99.0 a
	ImpactZ	4.26	SC	0.266	lb ai/a	POST	C					
	Roundup PowerMax	4.5	SL	1.13	lb ae/a	POST	C					
	MSO	100	SL	0.5	% v/v	POST	C					
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C					
5	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	10.0 a	99.0 a	98.0 a	10.0 a	99.0 a
	ImpactZ	4.26	SC	0.266	lb ai/a	POST	C					
	Liberty 280 SL	2.34	SL	0.53	lb ai/a	POST	C					
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C					
6	Harness	7	EC	1.60	lb ai/a	EPOST	B	0.0 b	0.0 b	0.0 b	8.8 a	99.0 a
	IMPACT	2.8	SC	0.0219	lb ai/a	EPOST	B					
	Atrazine	4	F	0.5	lb ai/a	EPOST	B					
	MSO	100	SL	0.25	% v/v	EPOST	B					
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B					
7	Harness	7	EC	1.60	lb ai/a	EPOST	B	0.0 b	0.0 b	0.0 b	11.3 a	99.0 a
	IMPACT	2.8	SC	0.0164	lb ai/a	EPOST	B					
	Atrazine	4	F	0.5	lb ai/a	EPOST	B					
	Roundup PowerMax	4.5	SL	1.13	lb ae/a	EPOST	B					
	MSO	100	SL	0.25	% v/v	EPOST	B					
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B					
8	Halex GT	4.39	CS	1.98	lb ai/a	EPOST	B	0.0 b	0.0 b	0.0 b	1.3 a	99.0 a
	Atrazine	4	F	0.5	lb ai/a	EPOST	B					
	NIS	100	SL	0.25	% v/v	EPOST	B					
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B					
9	ROUNDUP POWERMAX	5.5	SL	1.375	lb ai/a	EPOST	B	0.0 b	0.0 b	0.0 b	3.8 a	99.0 a
	Atrazine	4	F	2.0	lb ai/a	EPOST	B					
	PROWL H20	3.8	SC	0.95	lb ai/a	EPOST	B					
	NIS			0.25	% v/v	EPOST	B					

Means followed by same letter or symbol do not significantly differ (P=.10, Tukey's HSD)
Could not calculate Tukey's HSD (% mean diff) for columns 1,2,5 because error mean square = 0.

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Pest Type								W Weed	W Weed		W Weed
Pest Code								AMAPA	AGRASS		AMAPA
Pest Scientific Name								Amaranthus pal>			Amaranthus pal>
Pest Name								Palmer amaranth			Palmer amaranth
Crop Code							ZEAMX			ZEAMX	
BBCH Scale							BCOR			BCOR	
Crop Scientific Name							Zea mays			Zea mays	
Crop Name							Corn			Corn	
Description							STUNTING	CONTROL	CONTROL	STUNTING	CONTROL
Part Rated							PLANT C	PLANT C	PLANT P	PLANT C	PLANT C
Rating Date							Apr-11-18	Apr-11-18	Apr-11-18	Apr-26-18	Apr-26-18
Rating Type											
Rating Unit							%	%	%	%	%
Sample Size, Unit							2 ROW	2 ROW	2 ROW	2 ROW	2 ROW
Collection Basis, Unit							1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples							1	1	1	1	1
SE Group No.							7	7	9	9	9
Days After First/Last Applic.							14 14	14 14	14 14	29 9	29 9
Trt-Eval Interval							7 DA-C	14 DA-C	0 DA-B	14 DA-B	28 DA-B
Plant-Eval Interval							15 DP-1	15 DP-1	15 DP-1	30 DP-1	30 DP-1
ARM Action Codes							s10	s10	S05	S05	S05
Number of Decimals											
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage / Appl Code	1	2	3	4	5
10	REVULIN Q	51.2	DG	0.109	lb ai/a	EPOST B	0.0 b	0.0 b	0.0 b	2.5 a	99.0 a
	Atrazine	4	F	2.0	lb ai/a	EPOST B					
	COC			1.0	% v/v	EPOST B					
Tukey's HSD P=.10							.	.	2.01	14.77	.
Standard Deviation							0.00	0.00	0.91	6.70	0.00
CV							0.0	0.0	2.31	105.09	0.0
Grand Mean							4.00	39.60	39.40	6.38	89.10
Levene's F							0.00	0.00	0.00	0.482	0.00
Levene's Prob(F)							0.00*	0.00*	0.00*	0.875	0.00*
Replicate F							0.000	0.000	0.643	0.051	0.000
Replicate Prob(F)							1.0000	1.0000	0.5941	0.9844	1.0000
Treatment F							0.000	0.000	12474.858	1.561	0.000
Treatment Prob(F)							1.0000	1.0000	0.0001	0.1775	1.0000

Means followed by same letter or symbol do not significantly differ (P=.10, Tukey's HSD)
Could not calculate Tukey's HSD (% mean diff) for columns 1,2,5 because error mean square = 0.

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	6	7	8	9	10
	Pest Type							W Weed		W Weed	W Weed	W Weed
	Pest Code							AGRASS		AMAPA	AGRASS	AMAPA
	Pest Scientific Name									Amaranthus pal>		Amaranthus pal>
	Pest Name									Palmer amaranth		Palmer amaranth
	Crop Code								ZEAMX			
	BBCH Scale								BCOR			
	Crop Scientific Name								Zea mays			
	Crop Name								Corn			
	Description							CONTROL	STUNTING	CONTROL	CONTROL	CONTROL
	Part Rated							PLANT P	PLANT C	PLANT C	PLANT P	PLANT C
	Rating Date							Apr-26-18	May-14-18	May-14-18	May-14-18	Jun-12-18
	Rating Type											
	Rating Unit							%	%			
	Sample Size, Unit							2 ROW	2 ROW			
	Collection Basis, Unit							1 PLOT	1 PLOT			
	Number of Subsamples							1	1	1	1	1
	SE Group No.							9	9	14	14	15
	Days After First/Last Applic.							29 9	47 17	47 17	47 17	76 46
	Trt-Eval Interval							42 DA-B	56 DA-B			
	Plant-Eval Interval							30 DP-1	48 DP-1	48 DP-1	48 DP-1	77 DP-1
	ARM Action Codes							S05	S05			
	Number of Decimals											
1	Untreated Check							0.0 b	0.0 a	0.0 b	0.0 d	0.0 c
2	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	96.0 a	1.3 a	94.5 a	62.5 c	94.5 b
3	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	80.8 a	6.3 a	99.0 a	82.5 b	99.0 a
	ImpactZ	4.26	SC	0.356	lb ai/a	POST	C					
	MSO	100	SL	1.0	% v/v	POST	C					
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C					
4	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	83.3 a	2.5 a	99.0 a	91.0 ab	99.0 a
	ImpactZ	4.26	SC	0.266	lb ai/a	POST	C					
	Roundup PowerMax	4.5	SL	1.13	lb ae/a	POST	C					
	MSO	100	SL	0.5	% v/v	POST	C					
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C					
5	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	91.0 a	3.8 a	99.0 a	94.5 ab	99.0 a
	ImpactZ	4.26	SC	0.266	lb ai/a	POST	C					
	Liberty 280 SL	2.34	SL	0.53	lb ai/a	POST	C					
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C					
6	Harness	7	EC	1.60	lb ai/a	EPOST	B	95.8 a	3.8 a	99.0 a	87.5 ab	99.0 a
	IMPACT	2.8	SC	0.0219	lb ai/a	EPOST	B					
	Atrazine	4	F	0.5	lb ai/a	EPOST	B					
	MSO	100	SL	0.25	% v/v	EPOST	B					
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B					
7	Harness	7	EC	1.60	lb ai/a	EPOST	B	99.0 a	5.0 a	99.0 a	88.5 ab	99.0 a
	IMPACT	2.8	SC	0.0164	lb ai/a	EPOST	B					
	Atrazine	4	F	0.5	lb ai/a	EPOST	B					
	Roundup PowerMax	4.5	SL	1.13	lb ae/a	EPOST	B					
	MSO	100	SL	0.25	% v/v	EPOST	B					
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B					
8	Halex GT	4.39	CS	1.98	lb ai/a	EPOST	B	99.0 a	0.0 a	99.0 a	92.0 ab	99.0 a
	Atrazine	4	F	0.5	lb ai/a	EPOST	B					
	NIS	100	SL	0.25	% v/v	EPOST	B					
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B					
9	ROUNDUP POWERMAX	5.5	SL	1.375	lb ai/a	EPOST	B	98.0 a	0.0 a	99.0 a	99.0 a	99.0 a
	Atrazine	4	F	2.0	lb ai/a	EPOST	B					
	PROWL H20	3.8	SC	0.95	lb ai/a	EPOST	B					
	NIS			0.25	% v/v	EPOST	B					

Means followed by same letter or symbol do not significantly differ (P=.10, Tukey's HSD)
Could not calculate Tukey's HSD (% mean diff) for columns 1,2,5 because error mean square = 0.

University of Georgia

Pest Type							W Weed		W Weed	W Weed	W Weed
Pest Code							AGRASS		AMAPA	AGRASS	AMAPA
Pest Scientific Name									Amaranthus pal>		Amaranthus pal>
Pest Name									Palmer amaranth		Palmer amaranth
Crop Code								ZEAMX			
BBCH Scale								BCOR			
Crop Scientific Name								Zea mays			
Crop Name								Corn			
Description							CONTROL	STUNTING	CONTROL	CONTROL	CONTROL
Part Rated							PLANT P	PLANT C	PLANT C	PLANT P	PLANT C
Rating Date							Apr-26-18	May-14-18	May-14-18	May-14-18	Jun-12-18
Rating Type											
Rating Unit							%	%			
Sample Size, Unit							2 ROW	2 ROW			
Collection Basis, Unit							1 PLOT	1 PLOT			
Number of Subsamples							1	1	1	1	1
SE Group No.							9	9	14	14	15
Days After First/Last Applic.							29 9	47 17	47 17	47 17	76 46
Trt-Eval Interval							42 DA-B	56 DA-B			
Plant-Eval Interval							30 DP-1	48 DP-1	48 DP-1	48 DP-1	77 DP-1
ARM Action Codes							S05	S05			
Number of Decimals											
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	6	7	8	9	10
10	REVULIN Q	51.2	DG	0.109	lb ai/a	EPOST	B	94.5 a	1.3 a	99.0 a	93.5 ab	99.0 a
	Atrazine	4	F	2.0	lb ai/a	EPOST	B					
	COC			1.0	% v/v	EPOST	B					
Tukey's HSD P=.10								22.28	7.61	4.61	15.81	3.62
Standard Deviation								10.11	3.45	2.09	7.17	1.64
CV								12.07	145.38	2.36	9.07	1.85
Grand Mean								83.73	2.38	88.65	79.10	88.65
Levene's F								4.285	2.481		2.885	
Levene's Prob(F)								0.001*	0.03*		0.014*	
Replicate F								2.297	2.709	1.000	3.042	1.000
Replicate Prob(F)								0.1002	0.0649	0.4079	0.0460	0.4079
Treatment F								35.482	1.683	890.588	67.850	1440.333
Treatment Prob(F)								0.0001	0.1420	0.0001	0.0001	0.0001

Means followed by same letter or symbol do not significantly differ (P=.10, Tukey's HSD)
Could not calculate Tukey's HSD (% mean diff) for columns 1,2,5 because error mean square = 0.

University of Georgia

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	11	12	13
	Pest Type							W Weed		
	Pest Code							AGRASS		
	Pest Scientific Name									
	Pest Name									
	Crop Code								ZEAMA	ZEAMA
	BBCH Scale								BCOR	BCOR
	Crop Scientific Name								Zea mays amyla>	Zea mays amyla>
	Crop Name								Flour corn	Flour corn
	Description							CONTROL	YIELD	YIELD
	Part Rated							PLANT P	PLOT -	PLOT -
	Rating Date							Jun-12-18	Sep-5-18	Sep-5-18
	Rating Type								LBS/PLOT	BU/A
	Rating Unit									BU
	Sample Size, Unit								1 PLOT	1 A
	Collection Basis, Unit									
	Number of Subsamples							1	1	1
	SE Group No.							15	12	13
	Days After First/Last Applic.							76 46	161 131	161 131
	Trt-Eval Interval									
	Plant-Eval Interval							77 DP-1	162 DP-1	162 DP-1
	ARM Action Codes									TY1
	Number of Decimals									0
1	Untreated Check							0.0 d	41.0 a	209 a
2	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	53.8 c	47.0 a	239 a
3	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	81.3 ab	44.5 a	227 a
	ImpactZ	4.26	SC	0.356	lb ai/a	POST	C			
	MSO	100	SL	1.0	% v/v	POST	C			
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C			
4	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	83.8 ab	43.8 a	223 a
	ImpactZ	4.26	SC	0.266	lb ai/a	POST	C			
	Roundup PowerMax	4.5	SL	1.13	lb ae/a	POST	C			
	MSO	100	SL	0.5	% v/v	POST	C			
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C			
5	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	90.0 ab	42.0 a	214 a
	ImpactZ	4.26	SC	0.266	lb ai/a	POST	C			
	Liberty 280 SL	2.34	SL	0.53	lb ai/a	POST	C			
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C			
6	Harness	7	EC	1.60	lb ai/a	EPOST	B	73.8 b	41.5 a	211 a
	IMPACT	2.8	SC	0.0219	lb ai/a	EPOST	B			
	Atrazine	4	F	0.5	lb ai/a	EPOST	B			
	MSO	100	SL	0.25	% v/v	EPOST	B			
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B			
7	Harness	7	EC	1.60	lb ai/a	EPOST	B	90.0 ab	45.3 a	230 a
	IMPACT	2.8	SC	0.0164	lb ai/a	EPOST	B			
	Atrazine	4	F	0.5	lb ai/a	EPOST	B			
	Roundup PowerMax	4.5	SL	1.13	lb ae/a	EPOST	B			
	MSO	100	SL	0.25	% v/v	EPOST	B			
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B			
8	Halex GT	4.39	CS	1.98	lb ai/a	EPOST	B	88.8 ab	46.5 a	237 a
	Atrazine	4	F	0.5	lb ai/a	EPOST	B			
	NIS	100	SL	0.25	% v/v	EPOST	B			
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B			
9	ROUNDUP POWERMAX	5.5	SL	1.375	lb ai/a	EPOST	B	92.5 a	44.8 a	228 a
	Atrazine	4	F	2.0	lb ai/a	EPOST	B			
	PROWL H20	3.8	SC	0.95	lb ai/a	EPOST	B			
	NIS			0.25	% v/v	EPOST	B			

Means followed by same letter or symbol do not significantly differ (P=.10, Tukey's HSD)
Could not calculate Tukey's HSD (% mean diff) for columns 1,2,5 because error mean square = 0.

University of Georgia

Pest Type	W Weed		
Pest Code	AGRASS		
Pest Scientific Name			
Pest Name			
Crop Code		ZEAMA	ZEAMA
BBCH Scale		BCOR	BCOR
Crop Scientific Name		Zea mays amyla>	Zea mays amyla>
Crop Name		Flour corn	Flour corn
Description	CONTROL	YIELD	YIELD
Part Rated	PLANT P	PLOT -	PLOT -
Rating Date	Jun-12-18	Sep-5-18	Sep-5-18
Rating Type		LBS/PLOT	BU/A
Rating Unit			BU
Sample Size, Unit		1 PLOT	1 A
Collection Basis, Unit			
Number of Subsamples	1	1	1
SE Group No.	15	12	13
Days After First/Last Applic.	76 46	161 131	161 131
Trt-Eval Interval			
Plant-Eval Interval	77 DP-1	162 DP-1	162 DP-1
ARM Action Codes			TY1
Number of Decimals			0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	11	12	13
10	REVULIN Q	51.2	DG	0.109	lb ai/a	EPOST	B	90.0 ab	46.0 a	234 a
	Atrazine	4	F	2.0	lb ai/a	EPOST	B			
	COC			1.0	% v/v	EPOST	B			
Tukey's HSD P=.10								17.78	8.20	41.8
Standard Deviation								8.07	3.72	19.0
CV								10.85	8.42	8.42
Grand Mean								74.38	44.23	225.3
Levene's F								1.787	0.396	0.396
Levene's Prob(F)								0.112	0.927	0.927
Replicate F								0.573	1.667	1.667
Replicate Prob(F)								0.6376	0.1975	0.1975
Treatment F								50.272	1.297	1.297
Treatment Prob(F)								0.0001	0.2836	0.2836

Means followed by same letter or symbol do not significantly differ (P=.10, Tukey's HSD)
Could not calculate Tukey's HSD (% mean diff) for columns 1,2,5 because error mean square = 0.

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Impact and Impact Z Weed Control Programs in Field Corn

Trial ID: CN-11-18 Trial Year: 2018
Protocol ID: 18C04H096 Investigator: Eric P. Prostko
Project ID: IMPACTZ Study Director: Richard Porter

Pest Type
W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop
Pest Code
AMAPA, Amaranthus palmeri, Palmer amaranth = US
AGRASS, , = AGRASS, ,
Crop Code
ZEAMX, BCOR, Zea mays, Corn = US
ZEAMA, BCOR, Zea mays amylacea, Flour corn = US
Part Rated
PLANT = plant
PLOT = plot
C = Crop is Part Rated
P = Pest is Part Rated
Rating Unit
% = percent
BU = bushel

ROW = row
PLOT = total plot
A = acre

PLOT = total plot
Plant-Eval Interval
15 DP-1 = 1 ZEAMX Mar-27-18
30 DP-1 = 1 ZEAMX Mar-27-18
48 DP-1 = 1 ZEAMX Mar-27-18
77 DP-1 = 1 ZEAMX Mar-27-18
162 DP-1 = 1 ZEAMX Mar-27-18
ARM Action Codes
s10 = Perform 10% Student-Newman-Keuls mean separation on Standardized Summary
S05 = Perform 5% Student-Newman-Keuls mean separation on Standardized Summary
TY1 = 5.09366*[C12]

University of Georgia

Impact and Impact Z Weed Control Programs in Field Corn

Trial ID: CN-11-18 Trial Year: 2018
Protocol ID: 18C04H096 Investigator: Eric P. Prostko
Project ID: IMPACTZ Study Director: Richard Porter

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Plot	1	2	3	4
	Pest Type									W Weed	W Weed	
	Pest Code									AMAPA	AGRASS	
	Pest Scientific Name									Amaranthus pal>		
	Pest Name									Palmer amaranth		
	Crop Code								ZEAMX			ZEAMX
	BBCH Scale								BCOR			BCOR
	Crop Scientific Name								Zea mays			Zea mays
	Crop Name								Corn			Corn
	Description								STUNTING	CONTROL	CONTROL	STUNTING
	Part Rated								PLANT C	PLANT C	PLANT P	PLANT C
	Rating Date								Apr-11-18	Apr-11-18	Apr-11-18	Apr-26-18
	Rating Type											
	Rating Unit								%	%	%	%
	Sample Size, Unit								2 ROW	2 ROW	2 ROW	2 ROW
	Collection Basis, Unit								1 PLOT	1 PLOT	1 PLOT	1 PLOT
	Number of Subsamples								1	1	1	1
	SE Group No.								7	7	9	9
	Days After First/Last Applic.								14 14	14 14	14 14	29 9
	Trt-Eval Interval								7 DA-C	14 DA-C	0 DA-B	14 DA-B
	Plant-Eval Interval								15 DP-1	15 DP-1	15 DP-1	30 DP-1
	ARM Action Codes								s10	s10	S05	S05
	Number of Decimals											
1	Untreated Check							101	0.0	0.0	0.0	0.0
								203	0.0	0.0	0.0	0.0
								307	0.0	0.0	0.0	0.0
								409	0.0	0.0	0.0	0.0
								Mean =	0.0	0.0	0.0	0.0
2	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	102	10.0	99.0	99.0	10.0
								205	10.0	99.0	99.0	15.0
								303	10.0	99.0	99.0	10.0
								410	10.0	99.0	99.0	5.0
								Mean =	10.0	99.0	99.0	10.0
3	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	103	10.0	99.0	99.0	15.0
	ImpactZ	4.26	SC	0.356	lb ai/a	POST	C	202	10.0	99.0	99.0	0.0
	MSO	100	SL	1.0	% v/v	POST	C	309	10.0	99.0	99.0	10.0
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C	401	10.0	99.0	99.0	15.0
								Mean =	10.0	99.0	99.0	10.0
4	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	104	10.0	99.0	99.0	20.0
	ImpactZ	4.26	SC	0.266	lb ai/a	POST	C	206	10.0	99.0	99.0	0.0
	Roundup PowerMax	4.5	SL	1.13	lb ae/a	POST	C	301	10.0	99.0	99.0	0.0
	MSO	100	SL	0.5	% v/v	POST	C	408	10.0	99.0	95.0	5.0
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C					
								Mean =	10.0	99.0	98.0	6.3
5	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	105	10.0	99.0	99.0	10.0
	ImpactZ	4.26	SC	0.266	lb ai/a	POST	C	204	10.0	99.0	99.0	20.0
	Liberty 280 SL	2.34	SL	0.53	lb ai/a	POST	C	306	10.0	99.0	95.0	0.0
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C	405	10.0	99.0	99.0	10.0
								Mean =	10.0	99.0	98.0	10.0
6	Harness	7	EC	1.60	lb ai/a	EPOST	B	106	0.0	0.0	0.0	0.0
	IMPACT	2.8	SC	0.0219	lb ai/a	EPOST	B	201	0.0	0.0	0.0	10.0
	Atrazine	4	F	0.5	lb ai/a	EPOST	B	310	0.0	0.0	0.0	10.0
	MSO	100	SL	0.25	% v/v	EPOST	B	402	0.0	0.0	0.0	15.0
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B					
								Mean =	0.0	0.0	0.0	8.8
7	Harness	7	EC	1.60	lb ai/a	EPOST	B	107	0.0	0.0	0.0	0.0
	IMPACT	2.8	SC	0.0164	lb ai/a	EPOST	B	208	0.0	0.0	0.0	15.0
	Atrazine	4	F	0.5	lb ai/a	EPOST	B	305	0.0	0.0	0.0	15.0
	Roundup PowerMax	4.5	SL	1.13	lb ae/a	EPOST	B	403	0.0	0.0	0.0	15.0
	MSO	100	SL	0.25	% v/v	EPOST	B					
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B					
								Mean =	0.0	0.0	0.0	11.3
8	Halex GT	4.39	CS	1.98	lb ai/a	EPOST	B	108	0.0	0.0	0.0	5.0
	Atrazine	4	F	0.5	lb ai/a	EPOST	B	210	0.0	0.0	0.0	0.0
	NIS	100	SL	0.25	% v/v	EPOST	B	304	0.0	0.0	0.0	0.0
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B	407	0.0	0.0	0.0	0.0
								Mean =	0.0	0.0	0.0	1.3

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Pest Type									W Weed	W Weed	
Pest Code									AMAPA	AGRASS	
Pest Scientific Name									Amaranthus pal>		
Pest Name									Palmer amaranth		
Crop Code								ZEAMX			ZEAMX
BBCH Scale								BCOR			BCOR
Crop Scientific Name								Zea mays			Zea mays
Crop Name								Corn			Corn
Description								STUNTING	CONTROL	CONTROL	STUNTING
Part Rated								PLANT C	PLANT C	PLANT P	PLANT C
Rating Date								Apr-11-18	Apr-11-18	Apr-11-18	Apr-26-18
Rating Type											
Rating Unit								%	%	%	%
Sample Size, Unit								2 ROW	2 ROW	2 ROW	2 ROW
Collection Basis, Unit								1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples								1	1	1	1
SE Group No.								7	7	9	9
Days After First/Last Applic.								14 14	14 14	14 14	29 9
Trt-Eval Interval								7 DA-C	14 DA-C	0 DA-B	14 DA-B
Plant-Eval Interval								15 DP-1	15 DP-1	15 DP-1	30 DP-1
ARM Action Codes								s10	s10	S05	S05
Number of Decimals											
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Plot	1	2	3	4
9	ROUNDUP POWERMAX	5.5	SL	1.375	lb ai/a	EPOST	B	109	0.0	0.0	0.0	0.0
	Atrazine	4	F	2.0	lb ai/a	EPOST	B	207	0.0	0.0	0.0	0.0
	PROWL H20	3.8	SC	0.95	lb ai/a	EPOST	B	302	0.0	0.0	0.0	15.0
	NIS			0.25	% v/v	EPOST	B	404	0.0	0.0	0.0	0.0
								Mean =	0.0	0.0	0.0	3.8
10	REVULIN Q	51.2	DG	0.109	lb ai/a	EPOST	B	110	0.0	0.0	0.0	0.0
	Atrazine	4	F	2.0	lb ai/a	EPOST	B	209	0.0	0.0	0.0	0.0
	COC			1.0	% v/v	EPOST	B	308	0.0	0.0	0.0	10.0
								406	0.0	0.0	0.0	0.0
								Mean =	0.0	0.0	0.0	2.5

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Pest Type							W Weed	W Weed		W Weed
Pest Code							AMAPA	AGRASS		AMAPA
Pest Scientific Name							Amaranthus pal>			Amaranthus pal>
Pest Name							Palmer amaranth			Palmer amaranth
Crop Code									ZEAMX	
BBCH Scale									BCOR	
Crop Scientific Name									Zea mays	
Crop Name									Corn	
Description							CONTROL	CONTROL	STUNTING	CONTROL
Part Rated							PLANT C	PLANT P	PLANT C	PLANT C
Rating Date							Apr-26-18	Apr-26-18	May-14-18	May-14-18
Rating Type										
Rating Unit							%	%	%	
Sample Size, Unit							2 ROW	2 ROW	2 ROW	
Collection Basis, Unit							1 PLOT	1 PLOT	1 PLOT	
Number of Subsamples							1	1	1	1
SE Group No.							9	9	9	14
Days After First/Last Applic.							29 9	29 9	47 17	47 17
Trt-Eval Interval							28 DA-B	42 DA-B	56 DA-B	
Plant-Eval Interval							30 DP-1	30 DP-1	48 DP-1	48 DP-1
ARM Action Codes							S05	S05	S05	
Number of Decimals										
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Plot	5	6	7	8
1	Untreated Check							101	0.0	0.0	0.0	0.0
								203	0.0	0.0	0.0	0.0
								307	0.0	0.0	0.0	0.0
								409	0.0	0.0	0.0	0.0
								Mean =	0.0	0.0	0.0	0.0
2	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	102	99.0	95.0	0.0	99.0
								205	99.0	99.0	5.0	95.0
								303	99.0	95.0	0.0	99.0
								410	99.0	95.0	0.0	85.0
								Mean =	99.0	96.0	1.3	94.5
3	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	103	99.0	99.0	10.0	99.0
	ImpactZ	4.26	SC	0.356	lb ai/a	POST	C	202	99.0	99.0	10.0	99.0
	MSO	100	SL	1.0	% v/v	POST	C	309	99.0	65.0	0.0	99.0
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C	401	99.0	60.0	5.0	99.0
								Mean =	99.0	80.8	6.3	99.0
4	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	104	99.0	99.0	10.0	99.0
	ImpactZ	4.26	SC	0.266	lb ai/a	POST	C	206	99.0	99.0	0.0	99.0
	Roundup PowerMax	4.5	SL	1.13	lb ae/a	POST	C	301	99.0	50.0	0.0	99.0
	MSO	100	SL	0.5	% v/v	POST	C	408	99.0	85.0	0.0	99.0
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C					
								Mean =	99.0	83.3	2.5	99.0
5	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	105	99.0	95.0	0.0	99.0
	ImpactZ	4.26	SC	0.266	lb ai/a	POST	C	204	99.0	99.0	10.0	99.0
	Liberty 280 SL	2.34	SL	0.53	lb ai/a	POST	C	306	99.0	75.0	0.0	99.0
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C	405	99.0	95.0	5.0	99.0
								Mean =	99.0	91.0	3.8	99.0
6	Harness	7	EC	1.60	lb ai/a	EPOST	B	106	99.0	99.0	0.0	99.0
	IMPACT	2.8	SC	0.0219	lb ai/a	EPOST	B	201	99.0	90.0	10.0	99.0
	Atrazine	4	F	0.5	lb ai/a	EPOST	B	310	99.0	95.0	0.0	99.0
	MSO	100	SL	0.25	% v/v	EPOST	B	402	99.0	99.0	5.0	99.0
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B					
								Mean =	99.0	95.8	3.8	99.0
7	Harness	7	EC	1.60	lb ai/a	EPOST	B	107	99.0	99.0	0.0	99.0
	IMPACT	2.8	SC	0.0164	lb ai/a	EPOST	B	208	99.0	99.0	10.0	99.0
	Atrazine	4	F	0.5	lb ai/a	EPOST	B	305	99.0	99.0	10.0	99.0
	Roundup PowerMax	4.5	SL	1.13	lb ae/a	EPOST	B	403	99.0	99.0	0.0	99.0
	MSO	100	SL	0.25	% v/v	EPOST	B					
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B					
								Mean =	99.0	99.0	5.0	99.0
8	Halex GT	4.39	CS	1.98	lb ai/a	EPOST	B	108	99.0	99.0	0.0	99.0
	Atrazine	4	F	0.5	lb ai/a	EPOST	B	210	99.0	99.0	0.0	99.0
	NIS	100	SL	0.25	% v/v	EPOST	B	304	99.0	99.0	0.0	99.0
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B	407	99.0	99.0	0.0	99.0
								Mean =	99.0	99.0	0.0	99.0

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Pest Type							W Weed	W Weed		W Weed
Pest Code							AMAPA	AGRASS		AMAPA
Pest Scientific Name							Amaranthus pal>			Amaranthus pal>
Pest Name							Palmer amaranth			Palmer amaranth
Crop Code									ZEAMX	
BBCH Scale									BCOR	
Crop Scientific Name									Zea mays	
Crop Name									Corn	
Description							CONTROL	CONTROL	STUNTING	CONTROL
Part Rated							PLANT C	PLANT P	PLANT C	PLANT C
Rating Date							Apr-26-18	Apr-26-18	May-14-18	May-14-18
Rating Type										
Rating Unit							%	%	%	
Sample Size, Unit							2 ROW	2 ROW	2 ROW	
Collection Basis, Unit							1 PLOT	1 PLOT	1 PLOT	
Number of Subsamples							1	1	1	1
SE Group No.							9	9	9	14
Days After First/Last Applic.							29 9	29 9	47 17	47 17
Trt-Eval Interval							28 DA-B	42 DA-B	56 DA-B	
Plant-Eval Interval							30 DP-1	30 DP-1	48 DP-1	48 DP-1
ARM Action Codes							S05	S05	S05	
Number of Decimals										
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Plot	5	6	7	8
9	ROUNDUP POWERMAX	5.5	SL	1.375	lb ai/a	EPOST	B	109	99.0	95.0	0.0	99.0
	Atrazine	4	F	2.0	lb ai/a	EPOST	B	207	99.0	99.0	0.0	99.0
	PROWL H20	3.8	SC	0.95	lb ai/a	EPOST	B	302	99.0	99.0	0.0	99.0
	NIS			0.25	% v/v	EPOST	B	404	99.0	99.0	0.0	99.0
								Mean =	99.0	98.0	0.0	99.0
10	REVULIN Q	51.2	DG	0.109	lb ai/a	EPOST	B	110	99.0	99.0	0.0	99.0
	Atrazine	4	F	2.0	lb ai/a	EPOST	B	209	99.0	90.0	5.0	99.0
	COC			1.0	% v/v	EPOST	B	308	99.0	99.0	0.0	99.0
								406	99.0	90.0	0.0	99.0
								Mean =	99.0	94.5	1.3	99.0

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Pest Type							W Weed	W Weed	W Weed	
Pest Code							AGRASS	AMAPA	AGRASS	
Pest Scientific Name								Amaranthus pal>		
Pest Name								Palmer amaranth		
Crop Code										ZEAMA
BBCH Scale										BCOR
Crop Scientific Name										Zea mays amyla>
Crop Name										Flour corn
Description							CONTROL	CONTROL	CONTROL	YIELD
Part Rated							PLANT P	PLANT C	PLANT P	PLOT -
Rating Date							May-14-18	Jun-12-18	Jun-12-18	Sep-5-18
Rating Type										LBS/PLOT
Rating Unit										
Sample Size, Unit										1 PLOT
Collection Basis, Unit										
Number of Subsamples							1	1	1	1
SE Group No.							14	15	15	12
Days After First/Last Applic.							47 17	76 46	76 46	161 131
Trt-Eval Interval										
Plant-Eval Interval							48 DP-1	77 DP-1	77 DP-1	162 DP-1
ARM Action Codes										
Number of Decimals										
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Plot	9	10	11	12
1	Untreated Check							101	0.0	0.0	0.0	31.0
								203	0.0	0.0	0.0	44.0
								307	0.0	0.0	0.0	44.0
								409	0.0	0.0	0.0	45.0
								Mean =	0.0	0.0	0.0	41.0
2	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	102	65.0	99.0	50.0	45.0
								205	65.0	99.0	50.0	45.0
								303	55.0	90.0	50.0	49.0
								410	65.0	90.0	65.0	49.0
								Mean =	62.5	94.5	53.8	47.0
3	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	103	95.0	99.0	90.0	48.0
	ImpactZ	4.26	SC	0.356	lb ai/a	POST	C	202	95.0	99.0	95.0	44.0
	MSO	100	SL	1.0	% v/v	POST	C	309	75.0	99.0	75.0	45.0
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C	401	65.0	99.0	65.0	41.0
								Mean =	82.5	99.0	81.3	44.5
4	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	104	95.0	99.0	95.0	41.0
	ImpactZ	4.26	SC	0.266	lb ai/a	POST	C	206	99.0	99.0	90.0	44.0
	Roundup PowerMax	4.5	SL	1.13	lb ae/a	POST	C	301	85.0	99.0	65.0	40.0
	MSO	100	SL	0.5	% v/v	POST	C	408	85.0	99.0	85.0	50.0
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C					
								Mean =	91.0	99.0	83.8	43.8
5	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	105	99.0	99.0	85.0	43.0
	ImpactZ	4.26	SC	0.266	lb ai/a	POST	C	204	99.0	99.0	85.0	41.0
	Liberty 280 SL	2.34	SL	0.53	lb ai/a	POST	C	306	85.0	99.0	95.0	40.0
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C	405	95.0	99.0	95.0	44.0
								Mean =	94.5	99.0	90.0	42.0
6	Harness	7	EC	1.60	lb ai/a	EPOST	B	106	95.0	99.0	75.0	39.0
	IMPACT	2.8	SC	0.0219	lb ai/a	EPOST	B	201	85.0	99.0	75.0	44.0
	Atrazine	4	F	0.5	lb ai/a	EPOST	B	310	85.0	99.0	75.0	41.0
	MSO	100	SL	0.25	% v/v	EPOST	B	402	85.0	99.0	70.0	42.0
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B					
								Mean =	87.5	99.0	73.8	41.5
7	Harness	7	EC	1.60	lb ai/a	EPOST	B	107	95.0	99.0	85.0	47.0
	IMPACT	2.8	SC	0.0164	lb ai/a	EPOST	B	208	80.0	99.0	90.0	47.0
	Atrazine	4	F	0.5	lb ai/a	EPOST	B	305	80.0	99.0	90.0	41.0
	Roundup PowerMax	4.5	SL	1.13	lb ae/a	EPOST	B	403	99.0	99.0	95.0	46.0
	MSO	100	SL	0.25	% v/v	EPOST	B					
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B					
								Mean =	88.5	99.0	90.0	45.3
8	Halex GT	4.39	CS	1.98	lb ai/a	EPOST	B	108	95.0	99.0	90.0	50.0
	Atrazine	4	F	0.5	lb ai/a	EPOST	B	210	99.0	99.0	95.0	51.0
	NIS	100	SL	0.25	% v/v	EPOST	B	304	99.0	99.0	95.0	39.0
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B	407	75.0	99.0	75.0	46.0
								Mean =	92.0	99.0	88.8	46.5

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Pest Type								W Weed		W Weed		W Weed			
Pest Code								AGRASS		AMAPA		AGRASS			
Pest Scientific Name										Amaranthus pal>					
Pest Name										Palmer amaranth					
Crop Code														ZEAMA	
BBCH Scale														BCOR	
Crop Scientific Name														Zea mays amyla>	
Crop Name														Flour corn	
Description								CONTROL		CONTROL		CONTROL		YIELD	
Part Rated								PLANT P		PLANT C		PLANT P		PLOT -	
Rating Date								May-14-18		Jun-12-18		Jun-12-18		Sep-5-18	
Rating Type														LBS/PLOT	
Rating Unit															
Sample Size, Unit														1 PLOT	
Collection Basis, Unit															
Number of Subsamples								1		1		1		1	
SE Group No.								14		15		15		12	
Days After First/Last Applic.								47	17	76	46	76	46	161	131
Trt-Eval Interval															
Plant-Eval Interval								48 DP-1		77 DP-1		77 DP-1		162 DP-1	
ARM Action Codes															
Number of Decimals															
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Plot	9		10		11		12	
9	ROUNDUP POWERMAX	5.5	SL	1.375	lb ai/a	EPOST	B	109	99.0		99.0		90.0		45.0	
	Atrazine	4	F	2.0	lb ai/a	EPOST	B	207	99.0		99.0		95.0		50.0	
	PROWL H20	3.8	SC	0.95	lb ai/a	EPOST	B	302	99.0		99.0		90.0		41.0	
	NIS			0.25	% v/v	EPOST	B	404	99.0		99.0		95.0		43.0	
								Mean =	99.0		99.0		92.5		44.8	
10	REVULIN Q	51.2	DG	0.109	lb ai/a	EPOST	B	110	99.0		99.0		95.0		45.0	
	Atrazine	4	F	2.0	lb ai/a	EPOST	B	209	90.0		99.0		90.0		50.0	
	COC			1.0	% v/v	EPOST	B	308	95.0		99.0		95.0		46.0	
								406	90.0		99.0		80.0		43.0	
								Mean =	93.5		99.0		90.0		46.0	

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Pest Type								
Pest Code								
Pest Scientific Name								
Pest Name								
Crop Code								ZEAMA
BBCH Scale								BCOR
Crop Scientific Name								Zea mays amyla>
Crop Name								Flour corn
Description								YIELD
Part Rated								PLOT -
Rating Date								Sep-5-18
Rating Type								BU/A
Rating Unit								BU
Sample Size, Unit								1 A
Collection Basis, Unit								
Number of Subsamples								1
SE Group No.								13
Days After First/Last Applic.								161 131
Trt-Eval Interval								
Plant-Eval Interval								162 DP-1
ARM Action Codes								TY1
Number of Decimals								0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Plot	13
1	Untreated Check							101	158
								203	224
								307	224
								409	229
								Mean =	209
2	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	102	229
								205	229
								303	250
								410	250
								Mean =	239
3	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	103	244
	ImpactZ	4.26	SC	0.356	lb ai/a	POST	C	202	224
	MSO	100	SL	1.0	% v/v	POST	C	309	229
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C	401	209
								Mean =	227
4	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	104	209
	ImpactZ	4.26	SC	0.266	lb ai/a	POST	C	206	224
	Roundup PowerMax	4.5	SL	1.13	lb ae/a	POST	C	301	204
	MSO	100	SL	0.5	% v/v	POST	C	408	255
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C		
								Mean =	223
5	Harness Xtra 5.6	5.6	SC	2.52	lb ai/a	PRE	A	105	219
	ImpactZ	4.26	SC	0.266	lb ai/a	POST	C	204	209
	Liberty 280 SL	2.34	SL	0.53	lb ai/a	POST	C	306	204
	N-Pak AMS Liquid	100	L	2.5	% v/v	POST	C	405	224
								Mean =	214
6	Harness	7	EC	1.60	lb ai/a	EPOST	B	106	199
	IMPACT	2.8	SC	0.0219	lb ai/a	EPOST	B	201	224
	Atrazine	4	F	0.5	lb ai/a	EPOST	B	310	209
	MSO	100	SL	0.25	% v/v	EPOST	B	402	214
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B		
								Mean =	211
7	Harness	7	EC	1.60	lb ai/a	EPOST	B	107	239
	IMPACT	2.8	SC	0.0164	lb ai/a	EPOST	B	208	239
	Atrazine	4	F	0.5	lb ai/a	EPOST	B	305	209
	Roundup PowerMax	4.5	SL	1.13	lb ae/a	EPOST	B	403	234
	MSO	100	SL	0.25	% v/v	EPOST	B		
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B		
								Mean =	230
8	Halex GT	4.39	CS	1.98	lb ai/a	EPOST	B	108	255
	Atrazine	4	F	0.5	lb ai/a	EPOST	B	210	260
	NIS	100	SL	0.25	% v/v	EPOST	B	304	199
	N-Pak AMS Liquid	100	L	2.5	% v/v	EPOST	B	407	234
								Mean =	237

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Pest Type									
Pest Code									
Pest Scientific Name									
Pest Name									
Crop Code									ZEAMA
BBCH Scale									BCOR
Crop Scientific Name									Zea mays amyla>
Crop Name									Flour corn
Description									YIELD
Part Rated									PLOT -
Rating Date									Sep-5-18
Rating Type									BU/A
Rating Unit									BU
Sample Size, Unit									1 A
Collection Basis, Unit									
Number of Subsamples									1
SE Group No.									13
Days After First/Last Applic.									161 131
Trt-Eval Interval									
Plant-Eval Interval									162 DP-1
ARM Action Codes									TY1
Number of Decimals									0
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Growth Stage	Appl Code	Plot	13
9	ROUNDUP POWERMAX	5.5	SL	1.375	lb ai/a	EPOST	B	109	229
	Atrazine	4	F	2.0	lb ai/a	EPOST	B	207	255
	PROWL H20	3.8	SC	0.95	lb ai/a	EPOST	B	302	209
	NIS			0.25	% v/v	EPOST	B	404	219
								Mean =	228
10	REVULIN Q	51.2	DG	0.109	lb ai/a	EPOST	B	110	229
	Atrazine	4	F	2.0	lb ai/a	EPOST	B	209	255
	COC			1.0	% v/v	EPOST	B	308	234
								406	219
								Mean =	234

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Impact and Impact Z Weed Control Programs in Field Corn

Trial ID: CN-11-18 Trial Year: 2018
Protocol ID: 18C04H096 Investigator: Eric P. Prostko
Project ID: IMPACTZ Study Director: Richard Porter

Pest Type
W, Weed, G-BYRW7, G-WedStg = Weed or volunteer crop
Pest Code
AMAPA, Amaranthus palmeri, Palmer amaranth = US
AGRASS, , = AGRASS, ,
Crop Code
ZEAMX, BCOR, Zea mays, Corn = US
ZEAMA, BCOR, Zea mays amylacea, Flour corn = US
Part Rated
PLANT = plant
PLOT = plot
C = Crop is Part Rated
P = Pest is Part Rated
Rating Unit
% = percent
BU = bushel

ROW = row
PLOT = total plot
A = acre

PLOT = total plot
Plant-Eval Interval
15 DP-1 = 1 ZEAMX Mar-27-18
30 DP-1 = 1 ZEAMX Mar-27-18
48 DP-1 = 1 ZEAMX Mar-27-18
77 DP-1 = 1 ZEAMX Mar-27-18
162 DP-1 = 1 ZEAMX Mar-27-18
ARM Action Codes
s10 = Perform 10% Student-Newman-Keuls mean separation on Standardized Summary
S05 = Perform 5% Student-Newman-Keuls mean separation on Standardized Summary
TY1 = 5.09366*[C12]