

The Ohio State University

AMVAC corn herbicide portfolio showcase for US university locations - medium to fine soils

Trial ID: 21AMVACCRN Location: Western Branch Big E Trial Year: 2021
 Protocol ID: 21C04H055 Investigator (Creator): Dr. Mark M. Loux
 Project ID: Study Director: Joe Bruce
 Sponsor Contact:

General Trial Information

Study Director: Joe Bruce **Title:** Technical Service Manager

Discipline: H herbicide
Trial Status: E established

ARM Trial Created On: Mar-31-2021 **Trial Usage/Type:** DEV Development/Registration
Initiation Date: Apr-27-2021 **Planned Completion Date:** Sep-30-2020

Trial Location

Address (Location): 7721 South Charleston Pike
City: South Charleston **Country:** USA United States
State/Prov.: Ohio
Postal Code: 45368

Latitude of LL Corner °: 39.85741 N
Longitude of LL Corner °: -83.67007 W
Altitude of LL Corner: 1094.00 FT

Conducted Under GLP: No
Conducted Under GEP: No

Contacts

Role: STYDIR study director
Study Director: Joe Bruce **Title:** Technical Service Manager
Organization: AMVAC Chemical Corporation
Address 1: 44 Waterford Ln **Mobile No.:** 224-319-2000
Country: USA United States **E-mail:** joeb@amvac.com
City: Glen Carbon **State/Prov:** IL

Crop Description

Crop 1: C ZEAMX Zea mays Corn **BBCH Scale:** BCOR
Entry Date: May-3-2021 **Stage Scale:** BBCH
Variety: Pioneer P1108Q
Attributes: glyphosate and glufosinate resistant corn
Planting Date: Apr-27-2021 **Planting Rate:** 32097 S/A
Depth: 2 IN
Rows per Plot: 4 **Planting Method:** PLANTD planted
Row Spacing: 30 IN **Planting Equipment:** FPP finger pickup planter
Seed Bed: MEDIUM medium
Soil Temperature: 63 F **Soil Moisture:** SLIDRY slightly dry
Emergence Date: May-14-2021

Pest Description

Pest 1 Type: W **Code:** SETFA *Setaria faberi* **Common Name:** Giant foxtail **Stage Scale:** BBCH
Pest 2 Type: W **Code:** ECHCG *Echinochloa crus-galli* **Common Name:** Common barnyard grass **Stage Scale:** BBCH
Pest 3 Type: W **Code:** AMBTR *Ambrosia trifida* **Common Name:** Giant ragweed **Stage Scale:** BBCH
Pest 4 Type: W **Code:** ABUTH *Abutilon theophrasti* **Common Name:** velvetleaf **Stage Scale:** BBCH
Pest 5 Type: W **Code:** CHEAL *Chenopodium album* **Common Name:** common lambsquarters **Stage Scale:** BBCH
Pest 6 Type: W **Code:** AMARE *Amaranthus retroflexus* **Common Name:** Redroot pigweed **Entry Date:** Jun-2-2021
Stage Scale: BBCH

Site and Design

Treated Plot Width: 6.67 FT **Site Type:** FIELD field
Treated Plot Length: 30 FT **Experimental Unit:** 4 ROW row
Treated Plot Area: 200.1 FT2 **Treatments:** 16 **Tillage Type:** CONTIL conventional-till
Replications: 4 **Study Design:** RACOB� Randomized Complete Block (RCB)

Previous

No. Crop Year
 1. SOYBEAN 2020

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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: Big E
 % Sand: 44 % OM: 3.1 Texture: SICL silty clay loam
 % Silt: 45 pH: 6.6 Soil Name: Kokomo
 % Clay: 11 CEC: 15 Fert. Level: G good
 g o o d

Application Description

	A	B	C	D	E
Application Date	Apr-28-2021	May-24-2021	Jun-1-2021	Jun-6-2021	Jun-11-2021
Appl. Start Time	8:00 AM	10:00 AM	9:30 AM	9:30 AM	2:00 PM
Appl. Stop Time	8:30 AM	10:05 AM	10:00 AM	9:45 AM	2:15 PM
Interval to Prev. Appl.		26 DAYS	8 DAYS	5 DAYS	5 DAYS
Application Method	NONINC	SPRAY	SPRAY	SPRAY	SPRAY
Application Timing	PREPRE	EAPOCR	MIPOCR	POSPOS	LAPOCR
Application Placement	BROSOI	BROADC	BROADC	BROADC	BROADC
Applied By	ACKLEY	Dobbels	Loux	Loux	Dobbels
Appl. Entry Date	May-3-2021	May-25-2021	Jun-2-2021	Jun-7-2021	Jun-14-2021
Air Temperature Start, Stop	67.7 68.8 F	83 83 F	64 64 F	81 81 F	81 81 F
% Relative Humidity Start, Stop	63 70	50 5	65 65	60 59	70 70
Wind Velocity+Dir. Start	8 MPH WSW	3 MPH E	4 MPH S	4 MPH SSW	6 MPH N
Wind Velocity+Dir. Stop	8 MPH WSW	3 MPH E	4 MPH S	4 MPH SSW	6 MPH N
Wind Velocity+Dir. Max	9.2 MPH WSW	3 MPH E	4 MPH S	5 MPH SSW	6 MPH N
Wet Leaves (Y/N)	N no	N no	N no	N no	N no
Soil Temperature	58 F	73 F	62 F	67 F	78 F
Soil Moisture	DRY	DRY	DRY	dry	SLIWET
Soil Surface Condition	MEDIUM	MEDIUM	MEDIUM	MEDIUM	MEDIUM
% Cloud Cover	60	80	60	60	60
Next Moisture Occurred On	Apr-28-2021	May-26-2021	Jun-2-2021	Jun-7-2021	Jun-18-2021
Time to Next Moisture	11.5 HR	2.0 DAY	1.0 DAY	22.0 HR	7.0 DAY
Moisture 6 Hours after Appl.	0 IN	0 IN	0 IN	0 IN	0 IN
Moisture 1 Week after Appl.	1.1 IN	0.79 IN	0.53 IN	0.48 IN	0.35 IN

Protocol Application Directions:

Water Volume and Source: Apply at 15 GPA. If water is known to have mineral content, report water hardness.

Application Timing:

Make applications as follows:
 PREPRE - after planting, prior to crop emergence
 EAPOCR - target V1-V2 corn stage, before weeds exceed 3"
 MIPOCR - target 3-4" weed height
 POSPOS - target 8-11" corn, before weeds exceed 4" or crop exceeds 12" height
 LAPOCR - After crop exceeds 12" height, targeting 3-5" grass and 6-8" broadleaf weeds

Please record following information in **SITE DESCRIPTION** sections:

Crop/Weed Information: Crop stage & height; weed stages & heights, & densities at application.

Application details: Date, time, sprayer type, water pH, GPA, PSI, nozzle type and orifice. Use a spray nozzle which produces medium to coarse size droplets (approximate VMD range of 240 to 400 microns). Do not use a spray nozzle which produces very coarse, extremely coarse, or ultra coarse spray droplets.

Environmental Conditions: Air temp, wind speed & direction, humidity, & percent cloud cover at application.

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Crop Stage At Each Application

Crop 1 Code, BBCH Scale	A		B		C		D		E	
	ZEAMX	BCOR	ZEAMX	BCOR	ZEAMX	BCOR	ZEAMX	BCOR	ZEAMX	BCOR
Days after Emergence	-16		10		18		23		28	
Stage Majority, Percent	00	100	12	100	13	100	13	80	16	100
Stage Minimum, Percent							13	80		
Stage Maximum, Percent			12	100	13	100	14	20	16	100
Height Average			3	IN	7	IN	10	IN	21	IN
Height Minimum, Maximum			2.5	3	5	8	5	12	18	24

Pest Stage At Each Application

Pest 1 Code, Type, Scale	A		B		C		D		E	
	SETFA	W BBCH	SETFA	W BBCH	SETFA	W BBCH	SETFA	W BBCH	SETFA	W BBCH
Stage Majority, Percent			12	100	13	70			13	100
Stage Minimum, Percent					11	10				
Stage Maximum, Percent					13	70				
Height Average			2	IN	6	IN	3.5	IN	6	IN
Height Minimum, Maximum			1	3	3	7	3	4	5	6
Density Average									136	PLA/m2
Density Minimum, Maximum									104	176
Pest 2 Code, Type, Scale	A		B		C		D		E	
Stage Majority, Percent			11	100	12	100				
Height Average			1	IN	3	IN	3.5	IN	4	IN
Height Minimum, Maximum			1	2	3	4	3	4	3	5
Density Average									75	PLA/m2
Density Minimum, Maximum									36	95
Pest 3 Code, Type, Scale	A		B		C		D		E	
Stage Majority, Percent			16	60	16	60			19	100
Stage Minimum, Percent			12	20	12	10				
Stage Maximum, Percent			16	60	16	60				
Height Average			2	IN	8	IN	4	IN	18	IN
Height Minimum, Maximum			1	6	7	11	3	5	12	26
Density Average									71	PLA/m2
Density Minimum, Maximum									36	104
Pest 4 Code, Type, Scale	A		B		C		D		E	
Stage Majority, Percent			12	100	13	90	13	90	15	100
Stage Minimum, Percent					13	90	13	90		
Stage Maximum, Percent					14	10	15	10		
Height Average			1	IN	2.5	IN	4	IN	6	IN
Height Minimum, Maximum			1	2	2	2.5	3	5	5	6
Density Average									3	PLA/m2
Density Minimum, Maximum									0	5
Pest 5 Code, Type, Scale	A		B		C		D		E	
Stage Majority, Percent			14	80	18	60	18	100	19	100
Stage Minimum, Percent			12	20	12	10				
Stage Maximum, Percent			14	80	18	60				
Height Average			1	IN	4	IN	4	IN	7	IN
Height Minimum, Maximum			1	2	2	4	3	5	6	8
Density Average									46	PLA/m2
Density Minimum, Maximum									4	132
Pest 6 Code, Type, Scale	A		B		C		D		E	
Stage Majority, Percent					16	60				
Stage Minimum, Percent					13	20				
Stage Maximum, Percent					16	60				
Height Average					2	IN				
Height Minimum, Maximum					2	3				
Density Average					8	PLA/m2				
Density Minimum, Maximum					8	8				

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Application Equipment

	A	B	C	D	E
Appl. Equipment	6' TTI	10' AIXR	10' AIXR	10' AIXR	10' AIXR
Equipment Type	BACCAI	BACCAI	BACCAI	BACCAI	BACCAI
Operation Pressure	44 PSI	44 PSI	44 PSI	44 PSI	44 PSI
Nozzle Model	1110015	110015	110015	110015	110015
Nozzle Type	TTI	AI XR	AI XR	AI XR	AI XR
Nozzle TradeName				TeeJet	TeeJet
Nozzle Tip Size, Color				015 green	015 green
Nozzle Spacing	18 IN	18 IN	18 IN	18 IN	18 IN
Boom Length	6.67 FT	10 FT	10 FT	10 FT	10 FT
Boom Height	20 IN	20 IN	20 IN	20 IN	20 IN
Ground Speed	3 MPH	3 MPH	3 MPH	3 MPH	3 MPH
Carrier	WATER	WATER	WATER	WATER	WATER
Water Hardness (ppm CaCO3)	250	250	250	250	250
Application Amount	15 GAL/AC	15 GAL/AC	15 GAL/AC	15 GAL/AC	15 GAL/AC
Mix Coverage		25.0 mL	25 mL	25 mL	25 mL
Mix Size	1 L	2 L	2 L	2 L	2 L
Spray pH	7.8	7.8	7.8	7.8	7.8
Propellant	COMCO2	COMCO2	COMCO2	COMCO2	COMCO2
Tank Mix (Y/N)		Y yes	Y yes	Y yes	Y yes

Protocol Equipment Comment:

Small plot backpack equipment preferred.

Notes

Context	Date	By	Notes
STATUS	Mar-31-2021	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
STATUS	May-3-2021	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'E' when Planting Date entered.

Pest Type						W Weed	
Pest Code						SETFA	
Pest Scientific Name						Setaria faberi	
Pest Name						Giant foxtail	
Crop Type, Code	C ZEAMX	C ZEAMX	C ZEAMX	C ZEAMX	C ZEAMX	C ZEAMX	
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR	BCOR	
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays	
Crop Name	Corn	Corn	Corn	Corn	Corn	Corn	
Rating Date							
SE Group No.	1	1	1	1	2		
SE Name	CROP INJURY	CROP INJURY	CROP INJURY	CROP INJURY	WEED CONTROL	PLANT P CONTROL	
Part Rated	PLANT C	PLANT C	PLANT C	PLANT C	PLANT C	PLANT C	
Rating Type	PHYCHL	PHYNEC	PHYCHL	PHYNEC	PHYCHL	PHYNEC	
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100	
Sample Size	2 ROW	2 ROW	2 ROW	2 ROW	2 ROW	2 ROW	
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT	
Number of Subsamples	1	1	1	1	1	1	
Data Entry Date	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021	
Days After First/Last Applic.							
Trt-Eval Interval	7 DA-A	7 DAT	7 DAT	14 DAT	14 DAT		
Plant-Eval Interval							
Days After Emergence							
Number of Decimals	0	0	0	0	0	0	
Trt Treatment No. Name	Other Rate	Other Rate Unit Code	1* dAA	2* dAS	3*	4* dAL	5*

1 Untreated Check			0 b	0 c	0 -	0 b	0 c
2 IMPACT CORE	30 fl oz/a	B	0 b	10 a	0 -	6 a	98 a
AAtrex	2 pt/a	B					
MSO	0.5 % v/v	B					
Ammonium Sulfate	2.5 lb/a	B					
3 Liberty	32 fl oz/a	C	5 a	1 bc	0 -	0 b	81 b
Ammonium Sulfate	3 lb/a	C					
4 Sinate	24 fl oz/a	C	2 a	2 bc	0 -	0 b	88 ab
MSO	1 % v/v	C					
Ammonium Sulfate	3 lb/a	C					

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Pest Type						W Weed		
Pest Code						SETFA		
Pest Scientific Name						Setaria faberi		
Pest Name						Giant foxtail		
Crop Type, Code	C	ZEAMX	C	ZEAMX	C	ZEAMX	C	ZEAMX
BBCH Scale		BCOR		BCOR		BCOR		BCOR
Crop Scientific Name		Zea mays		Zea mays		Zea mays		Zea mays
Crop Name		Corn		Corn		Corn		Corn
Rating Date								
SE Group No.		1		1		1		1
SE Name		CROP INJURY		CROP INJURY		CROP INJURY		CROP INJURY
Part Rated		PLANT C		PLANT C		PLANT C		PLANT C
Rating Type		PHYCHL		PHYNEC		PHYCHL		PHYNEC
Rating Unit/Min/Max		% 0 100		% 0 100		% 0 100		% 0 100
Sample Size		2 ROW		2 ROW		2 ROW		2 ROW
Collection Basis		1 PLOT		1 PLOT		1 PLOT		1 PLOT
Number of Subsamples		1		1		1		1
Data Entry Date		Jun-30-2021		Jun-30-2021		Jun-30-2021		Jun-30-2021
Days After First/Last Applic.								
Trt-Eval Interval		7 DA-A		7 DAT		7 DAT		14 DAT
Plant-Eval Interval								14 DAT
Days After Emergence								
Number of Decimals		0		0		0		0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	1* dAA	2* dAS	3*	4* dAL	5*
5	Sinate	24 fl oz/a		C	2 a	1 bc	0 -	0 b	95 a
	AAtrex	1 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	3 lb/a		C					
6	Sinate	24 fl oz/a		C	4 a	3 b	0 -	0 b	98 a
	Dual II Magnum	1.5 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	3 lb/a		C					
7	Sinate	24 fl oz/a		C	3 a	3 b	0 -	0 b	96 a
	Dual II Magnum	1.5 pt/a		C					
	AAtrex	1 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	3 lb/a		C					
8	Bicep II Magnum	1.6 qt/a		A	0 b	0 c	0 -	0 b	91 a
	Sinate	24 fl oz/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
9	Bicep II Magnum	1.6 qt/a		A	0 b	1 bc	0 -	0 b	98 a
	Sinate	24 fl oz/a		D					
	AAtrex	2 pt/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
10	Bicep II Magnum	1.6 qt/a		A	0 b	0 c	0 -	0 b	97 a
	Sinate	28 fl oz/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
11	Bicep II Magnum	1.6 qt/a		A	0 b	0 c	0 -	0 b	100 a
	Sinate	28 fl oz/a		D					
	AAtrex	2 pt/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
12	Bicep II Magnum	1.6 qt/a		A	0 b	1 bc	0 -	1 b	100 a
	IMPACT CORE	24 fl oz/a		D					
	Roundup PowerMax	32 fl oz/a		D					
	AAtrex	2 pt/a		D					
	NIS	0.25 % v/v		D					
	Ammonium Sulfate	2.5 lb/a		D					
13	Bicep II Magnum	1.6 qt/a		A	0 b	0 c	0 -	0 b	93 a
	Impact	1 fl oz/a		D					
	AAtrex	1 pt/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	2.5 lb/a		D					

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Pest Type						W Weed			
Pest Code						SETFA			
Pest Scientific Name						Setaria faberi			
Pest Name						Giant foxtail			
Crop Type, Code	C ZEAMX	C ZEAMX	C ZEAMX	C ZEAMX	C ZEAMX				
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR				
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays				
Crop Name	Corn	Corn	Corn	Corn	Corn				
Rating Date									
SE Group No.	1	1	1	1	2				
SE Name	CROP INJURY	CROP INJURY	CROP INJURY	CROP INJURY	WEED CONTROL				
Part Rated	PLANT C	PLANT C	PLANT C	PLANT C	PLANT P				
Rating Type	PHYCHL	PHYNEC	PHYCHL	PHYNEC	CONTRO				
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100				
Sample Size	2 ROW	2 ROW	2 ROW	2 ROW	2 ROW				
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT				
Number of Subsamples	1	1	1	1	1				
Data Entry Date	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021				
Days After First/Last Applic.									
Trt-Eval Interval	7 DA-A	7 DAT	7 DAT	14 DAT	14 DAT				
Plant-Eval Interval									
Days After Emergence									
Number of Decimals	0	0	0	0	0				
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	1* dAA	2* dAS	3*	4* dAL	5*
14	Bicep II Magnum	1.6 qt/a		A	0 b	0 c	0 -	0 b	100 a
	Halex GT	3.6 pt/a		D					
	AAtrex	1 pt/a		D					
	NIS	0.25 % v/v		D					
	Ammonium Sulfate	2.5 lb/a		D					
15	Bicep II Magnum	1.6 qt/a		A	0 b	0 c	1	0 b	79 b
	Impact	2.01 fl oz/a		E					
	MSO	1 % v/v		E					
	Ammonium Sulfate	2.5 lb/a		E					
16	Impact	1 fl oz/a		C	0 b	0 c	0 -	0 b	78 b
	AAtrex	1 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	2.5 lb/a		C					
LSD P=.05					1.1 - 2.8	1.7 - 3.5	.	0.9 - 2.8	7.4
Standard Deviation					3.1t	0.4t	0.0	0.2t	5.2
CV					86.88t	33.82t	0.0	152.77t	5.94
Levene's F^					1.562	2.382	.	1.54	1.157
Levene's Prob(F)					0.121	0.012*	.	0.129	0.336
Skewness^					-0.4439	-0.4745	.	1.4402*	-0.4365
Kurtosis^					3.6417*	2.5978*	.	3.5405*	0.9553
Replicate F					0.067	0.923	0.000	0.330	1.055
Replicate Prob(F)					0.9774	0.4374	1.0000	0.8039	0.3778
Treatment F					10.403	11.759	0.000	7.602	89.006
Treatment Prob(F)					0.0001	0.0001	1.0000	0.0001	0.0001

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed				
Pest Code	ECHCG	AMBTR	CHEAL	AMARE	ABUTH				
Pest Scientific Name	Echinochloa cru>	Ambrosia trifida	Chenopodium alb>	Amaranthus retr>	Abutilon theoph>				
Pest Name	Common barnyard>	Giant ragweed	common lambsqua>	Redroot pigweed	velvetleaf				
Crop Type, Code	C ZEAMX	C ZEAMX	C ZEAMX	C ZEAMX	C ZEAMX				
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR				
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays				
Crop Name	Corn	Corn	Corn	Corn	Corn				
Rating Date									
SE Group No.	2	2	4	3	5				
SE Name	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL				
Part Rated	PLANT P	PLANT P	PLANT P	PLANT P	PLANT P				
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100				
Sample Size	2 ROW	2 ROW	2 ROW	2 ROW	2 ROW				
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT				
Number of Subsamples	1	1	1	1	1				
Data Entry Date	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021				
Days After First/Last Applic.									
Trt-Eval Interval	14 DAT	14 DAT	14 DAT	14 DAT	14 DAT				
Plant-Eval Interval									
Days After Emergence									
Number of Decimals	0	0	0	0	0				
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	6*	7*	8*	9*	10*
1	Untreated Check				0 e	0 d	0 d	0 b	0 b
2	IMPACT CORE	30 fl oz/a	B		98 a	82 a	100 a	100 a	100 a
	AAtrex	2 pt/a	B						
	MSO	0.5 % v/v	B						
	Ammonium Sulfate	2.5 lb/a	B						
3	Liberty	32 fl oz/a	C		33 d	58 c	53 c	98 a	88 a
	Ammonium Sulfate	3 lb/a	C						
4	Sinate	24 fl oz/a	C		71 c	62 bc	100 a	96 a	96 a
	MSO	1 % v/v	C						
	Ammonium Sulfate	3 lb/a	C						

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 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	ECHCG	AMBTR	CHEAL	AMARE	ABUTH
Pest Scientific Name	Echinochloa cru>	Ambrosia trifida	Chenopodium alb>	Amaranthus retr>	Abutilon theoph>
Pest Name	Common barnyard>	Giant ragweed	common lambsqua>	Redroot pigweed	velvetleaf
Crop Type, Code	C ZEAMX	C ZEAMX	C ZEAMX	C ZEAMX	C ZEAMX
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays
Crop Name	Corn	Corn	Corn	Corn	Corn
Rating Date					
SE Group No.	2	2	4	3	5
SE Name	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL
Part Rated	PLANT P	PLANT P	PLANT P	PLANT P	PLANT P
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100
Sample Size	2 ROW	2 ROW	2 ROW	2 ROW	2 ROW
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1	1
Data Entry Date	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021
Days After First/Last Applic.					
Trt-Eval Interval	14 DAT	14 DAT	14 DAT	14 DAT	14 DAT
Plant-Eval Interval					
Days After Emergence					
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	6*	7*	8*	9*	10*
5	Sinate	24 fl oz/a		C	71 c	67 abc	100 a	98 a	100 a
	AAtrex	1 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	3 lb/a		C					
6	Sinate	24 fl oz/a		C	86 ab	68 abc	86	91 a	100 a
	Dual II Magnum	1.5 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	3 lb/a		C					
7	Sinate	24 fl oz/a		C	91 ab	82 a	100 a	100 a	100 a
	Dual II Magnum	1.5 pt/a		C					
	AAtrex	1 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	3 lb/a		C					
8	Bicep II Magnum	1.6 qt/a		A	90 ab	80 a	88 b	95 a	100 a
	Sinate	24 fl oz/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
9	Bicep II Magnum	1.6 qt/a		A	96 a	78 ab	100 a	100 a	100 a
	Sinate	24 fl oz/a		D					
	AAtrex	2 pt/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
10	Bicep II Magnum	1.6 qt/a		A	97 a	81 a	100 a	100 a	98 a
	Sinate	28 fl oz/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
11	Bicep II Magnum	1.6 qt/a		A	100 a	86 a	100 a	100 a	100 a
	Sinate	28 fl oz/a		D					
	AAtrex	2 pt/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
12	Bicep II Magnum	1.6 qt/a		A	100 a	85 a	100 a	100 a	98 a
	IMPACT CORE	24 fl oz/a		D					
	Roundup PowerMax	32 fl oz/a		D					
	AAtrex	2 pt/a		D					
	NIS	0.25 % v/v		D					
	Ammonium Sulfate	2.5 lb/a		D					
13	Bicep II Magnum	1.6 qt/a		A	94 a	82 a	98 a	100 a	98 a
	Impact	1 fl oz/a		D					
	AAtrex	1 pt/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	2.5 lb/a		D					

The Ohio State University

AMVAC corn herbicide portfolio showcase for US university locations - medium to fine soils

Trial ID: 21AMVACCRN Location: Western Branch Big E Trial Year: 2021
 Protocol ID: 21C04H055 Investigator (Creator): Dr. Mark M. Loux
 Project ID: Study Director: Joe Bruce
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed			
Pest Code	ECHCG	AMBTR	CHEAL	AMARE	ABUTH			
Pest Scientific Name	Echinochloa cru>	Ambrosia trifida	Chenopodium alb>	Amaranthus retr>	Abutilon theoph>			
Pest Name	Common barnyard>	Giant ragweed	common lambsqua>	Redroot pigweed	velvetleaf			
Crop Type, Code	C ZEAMX	C ZEAMX	C ZEAMX	C ZEAMX	C ZEAMX			
BBCH Scale	BCOR	BCOR	BCOR	BCOR	BCOR			
Crop Scientific Name	Zea mays	Zea mays	Zea mays	Zea mays	Zea mays			
Crop Name	Corn	Corn	Corn	Corn	Corn			
Rating Date								
SE Group No.	2	2	4	3	5			
SE Name	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL			
Part Rated	PLANT P	PLANT P	PLANT P	PLANT P	PLANT P			
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO			
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100			
Sample Size	2 ROW	2 ROW	2 ROW	2 ROW	2 ROW			
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT			
Number of Subsamples	1	1	1	1	1			
Data Entry Date	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021			
Days After First/Last Applic.								
Trt-Eval Interval	14 DAT	14 DAT	14 DAT	14 DAT	14 DAT			
Plant-Eval Interval								
Days After Emergence								
Number of Decimals	0	0	0	0	0			
Trt Treatment No. Name	Other Rate	Other Rate	Appl Unit Code	6*	7*	8*	9*	10*
14 Bicep II Magnum	1.6 qt/a		A	100 a	84 a	100 a	100 a	100 a
Halex GT	3.6 pt/a		D					
AAtrex	1 pt/a		D					
NIS	0.25 % v/v		D					
Ammonium Sulfate	2.5 lb/a		D					
15 Bicep II Magnum	1.6 qt/a		A	79 bc	67 abc	100 a	100 a	95 a
Impact	2.01 fl oz/a		E					
MSO	1 % v/v		E					
Ammonium Sulfate	2.5 lb/a		E					
16 Impact	1 fl oz/a		C	78 bc	77 ab	100 a	98 a	100 a
AAtrex	1 pt/a		C					
MSO	1 % v/v		C					
Ammonium Sulfate	2.5 lb/a		C					
LSD P=.05				9.7	11.8	4.1	6.4	10.5
Standard Deviation				6.8	7.1	2.9	4.5	7.4
CV				8.49	9.92	3.25	4.91	8.03
Levene's F^				2.703	3.077	1.205	1.543	0.841
Levene's Prob(F)				0.005*	0.002*	0.305	0.127	0.629
Skewness^				-0.5241	0.1807	1.4776*	-1.2898*	-3.0145*
Kurtosis^				2.28*	1.1512	10.1756*	3.255*	16.8262*
Replicate F				0.270	0.470	1.136	1.475	0.695
Replicate Prob(F)				0.8468	0.6296	0.3455	0.2342	0.5602
Treatment F				64.995	26.296	362.217	119.207	44.861
Treatment Prob(F)				0.0001	0.0001	0.0001	0.0001	0.0001

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AMVAC corn herbicide portfolio showcase for US university locations - medium to fine soils

Trial ID: 21AMVACCRN Location: Western Branch Big E Trial Year: 2021
 Protocol ID: 21C04H055 Investigator (Creator): Dr. Mark M. Loux
 Project ID: Study Director: Joe Bruce
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	IPOHE	SETFA	ECHCG	AMBTR
Pest Scientific Name	Ipomoea hederac>	Setaria faberi	Echinochloa cru>	Ambrosia trifida
Pest Name	ivy-leaf mornin>	Giant foxtail	Common barnyard>	Giant ragweed
Crop Type, Code	C ZEAMX	C ZEAMX		
BBCH Scale	BCOR	BCOR		
Crop Scientific Name	Zea mays	Zea mays		
Crop Name	Corn	Corn		
Rating Date	Jun-28-2021	Jun-28-2021	Jun-28-2021	Jun-28-2021
SE Group No.	6	7	8	9
SE Name	WEED CONTROL	CROP WEED CONTROL	WEED CONTROL	WEED CONTROL
Part Rated	PLANT P	INJURY	PLANT P	PLANT P
Rating Type	CONTRO	PHYGEN	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100
Sample Size	2 ROW	2 ROW	2 ROW	2 ROW
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021
Days After First/Last Applic.		61 17	61 17	61 17
Trt-Eval Interval	14 DAT	27 DA-C	27 DA-C	27 DA-C
Plant-Eval Interval		62 DP-1	62 DP-1	62 DP-1
Days After Emergence		45 DE-1	45 DE-1	45 DE-1
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Unit	Appl Code	11*	12*	13*	14*	15*
1	Untreated Check				0 c	0 -	0 f	0 f	0 e
2	IMPACT CORE	30 fl oz/a	B		100 a	0 -	87 ab	91 abc	66 bc
	AAtrex	2 pt/a	B						
	MSO	0.5 % v/v	B						
	Ammonium Sulfate	2.5 lb/a	B						
3	Liberty	32 fl oz/a	C		100 a	0 -	55 e	45 e	50 d
	Ammonium Sulfate	3 lb/a	C						
4	Sinate	24 fl oz/a	C		100 a	0 -	71 cd	56 e	60 cd
	MSO	1 % v/v	C						
	Ammonium Sulfate	3 lb/a	C						

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AMVAC corn herbicide portfolio showcase for US university locations - medium to fine soils

Trial ID: 21AMVACCRN Location: Western Branch Big E Trial Year: 2021
 Protocol ID: 21C04H055 Investigator (Creator): Dr. Mark M. Loux
 Project ID: Study Director: Joe Bruce
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	IPOHE	SETFA	ECHCG	AMBTR
Pest Scientific Name	Ipomoea hederac>	Setaria faberi	Echinochloa cru>	Ambrosia trifida
Pest Name	ivy-leaf mornin>	Giant foxtail	Common barnyard>	Giant ragweed
Crop Type, Code	C ZEAMX	C ZEAMX		
BBCH Scale	BCOR	BCOR		
Crop Scientific Name	Zea mays	Zea mays		
Crop Name	Corn	Corn		
Rating Date		Jun-28-2021	Jun-28-2021	Jun-28-2021
SE Group No.	6	7	8	9
SE Name	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL
Part Rated	PLANT P	PLANT C	PLANT P	PLANT P
Rating Type	CONTRO	PHYGEN	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100 %	% 0 100 %	% 0 100 %	% 0 100 %
Sample Size	2 ROW	2 ROW	2 ROW	2 ROW
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021
Days After First/Last Applic.		61 17	61 17	61 17
Trt-Eval Interval	14 DAT	27 DA-C	27 DA-C	27 DA-C
Plant-Eval Interval		62 DP-1	62 DP-1	62 DP-1
Days After Emergence		45 DE-1	45 DE-1	45 DE-1
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	11*	12*	13*	14*	15*
5	Sinate	24 fl oz/a		C	100 a	0 -	69 d	69 d	60 cd
	AAtrex	1 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	3 lb/a		C					
6	Sinate	24 fl oz/a		C	100 a	0 -	82 bc	78 bcd	71 abc
	Dual II Magnum	1.5 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	3 lb/a		C					
7	Sinate	24 fl oz/a		C	100 a	0 -	88 ab	86 abc	74 abc
	Dual II Magnum	1.5 pt/a		C					
	AAtrex	1 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	3 lb/a		C					
8	Bicep II Magnum	1.6 qt/a		A	95 a	0 -	86 ab	88 abc	80 ab
	Sinate	24 fl oz/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
9	Bicep II Magnum	1.6 qt/a		A	95 a	0 -	89 ab	89 abc	81 ab
	Sinate	24 fl oz/a		D					
	AAtrex	2 pt/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
10	Bicep II Magnum	1.6 qt/a		A	95 a	0 -	92 ab	92 ab	80 ab
	Sinate	28 fl oz/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
11	Bicep II Magnum	1.6 qt/a		A	100 a	0 -	96 ab	96 ab	84 a
	Sinate	28 fl oz/a		D					
	AAtrex	2 pt/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
12	Bicep II Magnum	1.6 qt/a		A	100 a	0 -	100 a	100 a	87 a
	IMPACT CORE	24 fl oz/a		D					
	Roundup PowerMax	32 fl oz/a		D					
	AAtrex	2 pt/a		D					
	NIS	0.25 % v/v		D					
	Ammonium Sulfate	2.5 lb/a		D					
13	Bicep II Magnum	1.6 qt/a		A	100 a	0 -	91 ab	90 abc	81 ab
	Impact	1 fl oz/a		D					
	AAtrex	1 pt/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	2.5 lb/a		D					

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AMVAC corn herbicide portfolio showcase for US university locations - medium to fine soils

Trial ID: 21AMVACCRN Location: Western Branch Big E Trial Year: 2021
 Protocol ID: 21C04H055 Investigator (Creator): Dr. Mark M. Loux
 Project ID: Study Director: Joe Bruce
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	IPOHE	SETFA	ECHCG	AMBTR
Pest Scientific Name	Ipomoea hederac>	Setaria faberi	Echinochloa cru>	Ambrosia trifida
Pest Name	ivy-leaf mornin>	Giant foxtail	Common barnyard>	Giant ragweed
Crop Type, Code	C ZEAMX	C ZEAMX		
BBCH Scale	BCOR	BCOR		
Crop Scientific Name	Zea mays	Zea mays		
Crop Name	Corn	Corn		
Rating Date	Jun-28-2021	Jun-28-2021	Jun-28-2021	Jun-28-2021
SE Group No.	6	7	8	9
SE Name	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL
Part Rated	PLANT P	PLANT C	PLANT P	PLANT P
Rating Type	CONTRO	PHYGEN	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100 %	% 0 100 %	% 0 100 %	% 0 100 %
Sample Size	2 ROW	2 ROW	2 ROW	2 ROW
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1
Data Entry Date	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021
Days After First/Last Applic.		61 17	61 17	61 17
Trt-Eval Interval	14 DAT	27 DA-C	27 DA-C	27 DA-C
Plant-Eval Interval		62 DP-1	62 DP-1	62 DP-1
Days After Emergence		45 DE-1	45 DE-1	45 DE-1
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	11*	12*	13*	14*	15*
14	Bicep II Magnum	1.6 qt/a		A	96 a	0 -	99 a	99 a	83 a
	Halex GT	3.6 pt/a		D					
	AAtrex	1 pt/a		D					
	NIS	0.25 % v/v		D					
	Ammonium Sulfate	2.5 lb/a		D					
15	Bicep II Magnum	1.6 qt/a		A	70 b	0 -	84 abc	84 a-d	83 ab
	Impact	2.01 fl oz/a		E					
	MSO	1 % v/v		E					
	Ammonium Sulfate	2.5 lb/a		E					
16	Impact	1 fl oz/a		C	95 a	0 -	73 cd	73 cd	76 ab
	AAtrex	1 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	2.5 lb/a		C					
	LSD P=.05				10.2	.	9.7	11.9	10.5
	Standard Deviation				7.2	0.0	6.8	8.3	7.3
	CV				7.93	0.0	8.67	10.8	10.54
	Levene's F^				0.724	.	1.395	1.395	2.264
	Levene's Prob(F)				0.749	.	0.188	0.188	0.017*
	Skewness^				0.5236	.	0.1132	-0.1353	0.2054
	Kurtosis^				5.7835*	.	-0.1357	0.3669	1.519*
	Replicate F				1.648	0.000	0.712	0.891	0.837
	Replicate Prob(F)				0.1917	1.0000	0.5499	0.4532	0.4809
	Treatment F				49.446	0.000	50.064	37.586	33.668
	Treatment Prob(F)				0.0001	1.0000	0.0001	0.0001	0.0001

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AMVAC corn herbicide portfolio showcase for US university locations - medium to fine soils

Trial ID: 21AMVACCRN Location: Western Branch Big E Trial Year: 2021
 Protocol ID: 21C04H055 Investigator (Creator): Dr. Mark M. Loux
 Project ID: Study Director: Joe Bruce
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed				
Pest Code	CHEAL	AMARE	ABUTH	IPOHE	SETFA				
Pest Scientific Name	Chenopodium alb>	Amaranthus retr>	Abutilon theoph>	Ipomoea hederac>	Setaria faberi				
Pest Name	common lambsqua>	Redroot pigweed	velvetleaf	ivy-leaf mornin>	Giant foxtail				
Crop Type, Code									
BBCH Scale									
Crop Scientific Name									
Crop Name									
Rating Date	Jun-28-2021	Jun-28-2021	Jun-28-2021	Jun-28-2021	Jul-13-2021				
SE Group No.	11	12	13	14	16				
SE Name	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL				
Part Rated	PLANT P	PLANT P	PLANT P	PLANT P	PLANT P				
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100				
Sample Size	2 ROW	2 ROW	2 ROW	2 ROW	2 ROW				
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT				
Number of Subsamples	1	1	1	1	1				
Data Entry Date	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jul-13-2021				
Days After First/Last Applic.	61 17	61 17	61 17	61 17	76 32				
Trt-Eval Interval	27 DA-C	27 DA-C	27 DA-C	27 DA-C	42 DA-C				
Plant-Eval Interval	62 DP-1	62 DP-1	62 DP-1	62 DP-1	77 DP-1				
Days After Emergence	45 DE-1	45 DE-1	45 DE-1	45 DE-1	60 DE-1				
Number of Decimals	0	0	0	0	0				
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	16*	17*	18*	19*	20*
1	Untreated Check				0 d	0 b	0 b	0 c	0
2	IMPACT CORE	30 fl oz/a	B		100 a	100 a	95 a	93 a	81 abc
	AAtrex	2 pt/a	B						
	MSO	0.5 % v/v	B						
	Ammonium Sulfate	2.5 lb/a	B						
3	Liberty	32 fl oz/a	C		50 c	73 a	83 a	85 a	55 d
	Ammonium Sulfate	3 lb/a	C						
4	Sinate	24 fl oz/a	C		85 ab	78 a	90 a	100 a	64 cd
	MSO	1 % v/v	C						
	Ammonium Sulfate	3 lb/a	C						

The Ohio State University

AMVAC corn herbicide portfolio showcase for US university locations - medium to fine soils

Trial ID: 21AMVACCRN Location: Western Branch Big E Trial Year: 2021
 Protocol ID: 21C04H055 Investigator (Creator): Dr. Mark M. Loux
 Project ID: Study Director: Joe Bruce
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	CHEAL	AMARE	ABUTH	IPOHE	SETFA
Pest Scientific Name	Chenopodium alb>	Amaranthus retr>	Abutilon theoph>	Ipomoea hederac>	Setaria faberi
Pest Name	common lambsq>	Redroot pigweed	velvetleaf	ivy-leaf mornin>	Giant foxtail
Crop Type, Code					
BBCH Scale					
Crop Scientific Name					
Crop Name					
Rating Date	Jun-28-2021	Jun-28-2021	Jun-28-2021	Jun-28-2021	Jul-13-2021
SE Group No.	11	12	13	14	16
SE Name	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL
Part Rated	PLANT P	PLANT P	PLANT P	PLANT P	PLANT P
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100
Sample Size	2 ROW	2 ROW	2 ROW	2 ROW	2 ROW
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1	1
Data Entry Date	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jul-13-2021
Days After First/Last Applic.	61 17	61 17	61 17	61 17	76 32
Trt-Eval Interval	27 DA-C	27 DA-C	27 DA-C	27 DA-C	42 DA-C
Plant-Eval Interval	62 DP-1	62 DP-1	62 DP-1	62 DP-1	77 DP-1
Days After Emergence	45 DE-1	45 DE-1	45 DE-1	45 DE-1	60 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	16*	17*	18*	19*	20*
5	Sinate	24 fl oz/a		C	98 a	85 a	98 a	73 ab	68 cd
	AAtrex	1 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	3 lb/a		C					
6	Sinate	24 fl oz/a		C	76 b	85 a	100 a	55 b	70 bcd
	Dual II Magnum	1.5 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	3 lb/a		C					
7	Sinate	24 fl oz/a		C	93 a	95 a	95 a	90 a	81 abc
	Dual II Magnum	1.5 pt/a		C					
	AAtrex	1 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	3 lb/a		C					
8	Bicep II Magnum	1.6 qt/a		A	93 a	98 a	100 a	100 a	79 abc
	Sinate	24 fl oz/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
9	Bicep II Magnum	1.6 qt/a		A	100 a	98 a	100 a	100 a	78 abc
	Sinate	24 fl oz/a		D					
	AAtrex	2 pt/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
10	Bicep II Magnum	1.6 qt/a		A	100 a	100 a	95 a	95 a	81 abc
	Sinate	28 fl oz/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
11	Bicep II Magnum	1.6 qt/a		A	100 a	100 a	100 a	100 a	86 ab
	Sinate	28 fl oz/a		D					
	AAtrex	2 pt/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
12	Bicep II Magnum	1.6 qt/a		A	100 a	100 a	100 a	100 a	90 a
	IMPACT CORE	24 fl oz/a		D					
	Roundup PowerMax	32 fl oz/a		D					
	AAtrex	2 pt/a		D					
	NIS	0.25 % v/v		D					
	Ammonium Sulfate	2.5 lb/a		D					
13	Bicep II Magnum	1.6 qt/a		A	95 a	100 a	100 a	100 a	81 abc
	Impact	1 fl oz/a		D					
	AAtrex	1 pt/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	2.5 lb/a		D					

The Ohio State University

AMVAC corn herbicide portfolio showcase for US university locations - medium to fine soils

Trial ID: 21AMVACCRN Location: Western Branch Big E Trial Year: 2021
 Protocol ID: 21C04H055 Investigator (Creator): Dr. Mark M. Loux
 Project ID: Study Director: Joe Bruce
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	CHEAL	AMARE	ABUTH	IPOHE	SETFA
Pest Scientific Name	Chenopodium alb>	Amaranthus retr>	Abutilon theoph>	Ipomoea hederac>	Setaria faberi
Pest Name	common lambsqua>	Redroot pigweed	velvetleaf	ivy-leaf mornin>	Giant foxtail
Crop Type, Code					
BBCH Scale					
Crop Scientific Name					
Crop Name					
Rating Date	Jun-28-2021	Jun-28-2021	Jun-28-2021	Jun-28-2021	Jul-13-2021
SE Group No.	11	12	13	14	16
SE Name	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL
Part Rated	PLANT P	PLANT P	PLANT P	PLANT P	PLANT P
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100
Sample Size	2 ROW	2 ROW	2 ROW	2 ROW	2 ROW
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1	1
Data Entry Date	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jun-30-2021	Jul-13-2021
Days After First/Last Applic.	61 17	61 17	61 17	61 17	76 32
Trt-Eval Interval	27 DA-C	27 DA-C	27 DA-C	27 DA-C	42 DA-C
Plant-Eval Interval	62 DP-1	62 DP-1	62 DP-1	62 DP-1	77 DP-1
Days After Emergence	45 DE-1	45 DE-1	45 DE-1	45 DE-1	60 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	16*	17*	18*	19*	20*
14	Bicep II Magnum	1.6 qt/a		A	100 a	100 a	100 a	98 a	92 a
	Halex GT	3.6 pt/a		D					
	AAtrex	1 pt/a		D					
	NIS	0.25 % v/v		D					
	Ammonium Sulfate	2.5 lb/a		D					
15	Bicep II Magnum	1.6 qt/a		A	100 a	100 a	100 a	100 a	82 abc
	Impact	2.01 fl oz/a		E					
	MSO	1 % v/v		E					
	Ammonium Sulfate	2.5 lb/a		E					
16	Impact	1 fl oz/a		C	100 a	100 a	100 a	83 a	64 cd
	AAtrex	1 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	2.5 lb/a		C					
	LSD P=.05				12.0	16.5	15.8	20.9	11.0
	Standard Deviation				8.4	11.6	11.1	14.7	7.7
	CV				9.7	13.18	12.18	17.17	10.05
	Levene's F^				5.007	9.605	0.798	3.419	0.929
	Levene's Prob(F)				0.00*	0.00*	0.674	0.001*	0.536
	Skewness^				-0.2767	-0.2141	-2.816*	-0.2266	-0.1818
	Kurtosis^				5.8604*	1.3004*	14.4087*	2.1141*	0.4068
	Replicate F				0.810	1.790	0.900	2.577	4.323
	Replicate Prob(F)				0.4948	0.1626	0.4485	0.0657	0.0096
	Treatment F				40.086	18.753	19.947	12.597	7.390
	Treatment Prob(F)				0.0001	0.0001	0.0001	0.0001	0.0001

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AMVAC corn herbicide portfolio showcase for US university locations - medium to fine soils

Trial ID: 21AMVACCRN Location: Western Branch Big E Trial Year: 2021
 Protocol ID: 21C04H055 Investigator (Creator): Dr. Mark M. Loux
 Project ID: Study Director: Joe Bruce
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed				
Pest Code	ECHCG	AMBTR	CHEAL	AMARE	ABUTH				
Pest Scientific Name	Echinochloa cru>	Ambrosia trifida	Chenopodium alb>	Amaranthus retr>	Abutilon theoph>				
Pest Name	Common barnyard>	Giant ragweed	common lambsqua>	Redroot pigweed	velvetleaf				
Crop Type, Code									
BBCH Scale									
Crop Scientific Name									
Crop Name									
Rating Date	Jul-13-2021	Jul-13-2021	Jul-13-2021	Jul-13-2021	Jul-13-2021				
SE Group No.	17	18	19	20	21				
SE Name	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL				
Part Rated	PLANT P	PLANT P	PLANT P	PLANT P	PLANT P				
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100				
Sample Size	2 ROW	2 ROW	2 ROW	2 ROW	2 ROW				
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT				
Number of Subsamples	1	1	1	1	1				
Data Entry Date	Jul-13-2021	Jul-13-2021	Jul-13-2021	Jul-13-2021	Jul-13-2021				
Days After First/Last Applic.	76 32	76 32	76 32	76 32	76 32				
Trt-Eval Interval	42 DA-C	42 DA-C	42 DA-C	42 DA-C	42 DA-C				
Plant-Eval Interval	77 DP-1	77 DP-1	77 DP-1	77 DP-1	77 DP-1				
Days After Emergence	60 DE-1	60 DE-1	60 DE-1	60 DE-1	60 DE-1				
Number of Decimals	0	0	0	0	0				
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	21*	22*	23*	24*	25*
1	Untreated Check				0	0 d	0 d	0 b	0 b
2	IMPACT CORE	30 fl oz/a	B		81 abc	49 c	100 a	100 a	95 a
	AAtrex	2 pt/a	B						
	MSO	0.5 % v/v	B						
	Ammonium Sulfate	2.5 lb/a	B						
3	Liberty	32 fl oz/a	C		55 d	48 c	53 c	68 a	88 a
	Ammonium Sulfate	3 lb/a	C						
4	Sinate	24 fl oz/a	C		61 cd	50 c	93 a	78 a	100 a
	MSO	1 % v/v	C						
	Ammonium Sulfate	3 lb/a	C						

The Ohio State University

AMVAC corn herbicide portfolio showcase for US university locations - medium to fine soils

Trial ID: 21AMVACCRN Location: Western Branch Big E Trial Year: 2021
 Protocol ID: 21C04H055 Investigator (Creator): Dr. Mark M. Loux
 Project ID: Study Director: Joe Bruce
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	ECHCG	AMBTR	CHEAL	AMARE	ABUTH
Pest Scientific Name	Echinochloa cru>	Ambrosia trifida	Chenopodium alb>	Amaranthus retr>	Abutilon theoph>
Pest Name	Common barnyard>	Giant ragweed	common lambsqua>	Redroot pigweed	velvetleaf
Crop Type, Code					
BBCH Scale					
Crop Scientific Name					
Crop Name					
Rating Date	Jul-13-2021	Jul-13-2021	Jul-13-2021	Jul-13-2021	Jul-13-2021
SE Group No.	17	18	19	20	21
SE Name	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL
Part Rated	PLANT P	PLANT P	PLANT P	PLANT P	PLANT P
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100
Sample Size	2 ROW	2 ROW	2 ROW	2 ROW	2 ROW
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1	1
Data Entry Date	Jul-13-2021	Jul-13-2021	Jul-13-2021	Jul-13-2021	Jul-13-2021
Days After First/Last Applic.	76 32	76 32	76 32	76 32	76 32
Trt-Eval Interval	42 DA-C	42 DA-C	42 DA-C	42 DA-C	42 DA-C
Plant-Eval Interval	77 DP-1	77 DP-1	77 DP-1	77 DP-1	77 DP-1
Days After Emergence	60 DE-1	60 DE-1	60 DE-1	60 DE-1	60 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	21*	22*	23*	24*	25*
5	Sinate	24 fl oz/a		C	63 cd	53 bc	93 a	81 a	100 a
	AAtrex	1 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	3 lb/a		C					
6	Sinate	24 fl oz/a		C	70 bcd	63 abc	67 b	65 a	90 a
	Dual II Magnum	1.5 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	3 lb/a		C					
7	Sinate	24 fl oz/a		C	79 abc	66 abc	95 a	100 a	100 a
	Dual II Magnum	1.5 pt/a		C					
	AAtrex	1 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	3 lb/a		C					
8	Bicep II Magnum	1.6 qt/a		A	79 abc	78 a	90 a	95 a	100 a
	Sinate	24 fl oz/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
9	Bicep II Magnum	1.6 qt/a		A	78 abc	74 ab	100 a	90 a	90 a
	Sinate	24 fl oz/a		D					
	AAtrex	2 pt/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
10	Bicep II Magnum	1.6 qt/a		A	79 abc	70 abc	90 a	100 a	90 a
	Sinate	28 fl oz/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
11	Bicep II Magnum	1.6 qt/a		A	86 ab	79 a	100 a	100 a	100 a
	Sinate	28 fl oz/a		D					
	AAtrex	2 pt/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	3 lb/a		D					
12	Bicep II Magnum	1.6 qt/a		A	90 ab	79 a	100 a	100 a	100 a
	IMPACT CORE	24 fl oz/a		D					
	Roundup PowerMax	32 fl oz/a		D					
	AAtrex	2 pt/a		D					
	NIS	0.25 % v/v		D					
	Ammonium Sulfate	2.5 lb/a		D					
13	Bicep II Magnum	1.6 qt/a		A	78 abc	78 a	100 a	95 a	100 a
	Impact	1 fl oz/a		D					
	AAtrex	1 pt/a		D					
	MSO	1 % v/v		D					
	Ammonium Sulfate	2.5 lb/a		D					

The Ohio State University

AMVAC corn herbicide portfolio showcase for US university locations - medium to fine soils

Trial ID: 21AMVACCRN Location: Western Branch Big E Trial Year: 2021
 Protocol ID: 21C04H055 Investigator (Creator): Dr. Mark M. Loux
 Project ID: Study Director: Joe Bruce
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	ECHCG	AMBTR	CHEAL	AMARE	ABUTH
Pest Scientific Name	Echinochloa cru>	Ambrosia trifida	Chenopodium alb>	Amaranthus retr>	Abutilon theoph>
Pest Name	Common barnyard>	Giant ragweed	common lambsqua>	Redroot pigweed	velvetleaf

Crop Type, Code					
BBCH Scale					
Crop Scientific Name					
Crop Name					
Rating Date	Jul-13-2021	Jul-13-2021	Jul-13-2021	Jul-13-2021	Jul-13-2021
SE Group No.	17	18	19	20	21
SE Name	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL	WEED CONTROL
Part Rated	PLANT P	PLANT P	PLANT P	PLANT P	PLANT P
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100
Sample Size	2 ROW	2 ROW	2 ROW	2 ROW	2 ROW
Collection Basis	1 PLOT	1 PLOT	1 PLOT	1 PLOT	1 PLOT
Number of Subsamples	1	1	1	1	1
Data Entry Date	Jul-13-2021	Jul-13-2021	Jul-13-2021	Jul-13-2021	Jul-13-2021
Days After First/Last Applic.	76 32	76 32	76 32	76 32	76 32
Trt-Eval Interval	42 DA-C	42 DA-C	42 DA-C	42 DA-C	42 DA-C
Plant-Eval Interval	77 DP-1	77 DP-1	77 DP-1	77 DP-1	77 DP-1
Days After Emergence	60 DE-1	60 DE-1	60 DE-1	60 DE-1	60 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	21*	22*	23*	24*	25*
14	Bicep II Magnum	1.6 qt/a		A	92 a	83 a	100 a	100 a	96 a
	Halex GT	3.6 pt/a		D					
	AAtrex	1 pt/a		D					
	NIS	0.25 % v/v		D					
	Ammonium Sulfate	2.5 lb/a		D					
15	Bicep II Magnum	1.6 qt/a		A	81 abc	84 a	95 a	100 a	89 a
	Impact	2.01 fl oz/a		E					
	MSO	1 % v/v		E					
	Ammonium Sulfate	2.5 lb/a		E					
16	Impact	1 fl oz/a		C	61 cd	68 abc	93 a	90 a	100 a
	AAtrex	1 pt/a		C					
	MSO	1 % v/v		C					
	Ammonium Sulfate	2.5 lb/a		C					
	LSD P=.05				12.8	14.6	13.3	20.0	16.7
	Standard Deviation				9.0	10.2	8.0	14.1	11.7
	CV				11.93	16.07	9.32	16.52	13.04
	Levene's F^				1.085	0.921	1.842	1.414	0.716
	Levene's Prob(F)				0.395	0.548	0.056	0.179	0.756
	Skewness^				-0.2687	0.0375	-0.8554*	0.0773	-1.8538*
	Kurtosis^				1.5294*	0.8779	1.0995	2.1006*	4.3228*
	Replicate F				2.420	0.741	0.956	0.308	0.702
	Replicate Prob(F)				0.0795	0.5334	0.3957	0.8195	0.5556
	Treatment F				6.038	16.956	32.538	13.270	17.439
	Treatment Prob(F)				0.0001	0.0001	0.0001	0.0001	0.0001

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AMVAC corn herbicide portfolio showcase for US university locations - medium to fine soils

Trial ID: 21AMVACCRN Location: Western Branch Big E Trial Year: 2021
 Protocol ID: 21C04H055 Investigator (Creator): Dr. Mark M. Loux
 Project ID: Study Director: Joe Bruce
 Sponsor Contact:

Pest Type W Weed
 Pest Code IPOHE
 Pest Scientific Name Ipomoea hederac>
 Pest Name ivy-leaf mornin>
 Crop Type, Code
 BBCH Scale
 Crop Scientific Name
 Crop Name
 Rating Date Jul-13-2021
 SE Group No. 22
 SE Name WEED CONTROL
 Part Rated PLANT P
 Rating Type CONTRO
 Rating Unit/Min/Max % 0 100
 Sample Size 2 ROW
 Collection Basis 1 PLOT
 Number of Subsamples 1
 Data Entry Date Jul-13-2021
 Days After First/Last Applic. 76 32
 Trt-Eval Interval 42 DA-C
 Plant-Eval Interval 77 DP-1
 Days After Emergence 60 DE-1
 Number of Decimals 0

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	26*
5	Sinate	24 fl oz/a	C		90 ab
	AAtrex	1 pt/a	C		
	MSO	1 % v/v	C		
	Ammonium Sulfate	3 lb/a	C		
6	Sinate	24 fl oz/a	C		70
	Dual II Magnum	1.5 pt/a	C		
	MSO	1 % v/v	C		
	Ammonium Sulfate	3 lb/a	C		
7	Sinate	24 fl oz/a	C		90 ab
	Dual II Magnum	1.5 pt/a	C		
	AAtrex	1 pt/a	C		
	MSO	1 % v/v	C		
	Ammonium Sulfate	3 lb/a	C		
8	Bicep II Magnum	1.6 qt/a	A		85 ab
	Sinate	24 fl oz/a	D		
	MSO	1 % v/v	D		
	Ammonium Sulfate	3 lb/a	D		
9	Bicep II Magnum	1.6 qt/a	A		100 a
	Sinate	24 fl oz/a	D		
	AAtrex	2 pt/a	D		
	MSO	1 % v/v	D		
	Ammonium Sulfate	3 lb/a	D		
10	Bicep II Magnum	1.6 qt/a	A		100 a
	Sinate	28 fl oz/a	D		
	MSO	1 % v/v	D		
	Ammonium Sulfate	3 lb/a	D		
11	Bicep II Magnum	1.6 qt/a	A		96 a
	Sinate	28 fl oz/a	D		
	AAtrex	2 pt/a	D		
	MSO	1 % v/v	D		
	Ammonium Sulfate	3 lb/a	D		
12	Bicep II Magnum	1.6 qt/a	A		100 a
	IMPACT CORE	24 fl oz/a	D		
	Roundup PowerMax	32 fl oz/a	D		
	AAtrex	2 pt/a	D		
	NIS	0.25 % v/v	D		
	Ammonium Sulfate	2.5 lb/a	D		
13	Bicep II Magnum	1.6 qt/a	A		90 ab
	Impact	1 fl oz/a	D		
	AAtrex	1 pt/a	D		
	MSO	1 % v/v	D		
	Ammonium Sulfate	2.5 lb/a	D		

The Ohio State University

AMVAC corn herbicide portfolio showcase for US university locations - medium to fine soils

Trial ID: 21AMVACCRN Location: Western Branch Big E Trial Year: 2021
 Protocol ID: 21C04H055 Investigator (Creator): Dr. Mark M. Loux
 Project ID: Study Director: Joe Bruce
 Sponsor Contact:

Pest Type

W, Weed = Weed or volunteer crop

Pest Code

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

Crop Type, Code

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

Part Rated

PLANT = plant
 C = Crop is Part Rated
 P = Pest is Part Rated

Rating Type

PHYCHL = phytotoxicity - chlorosis
 PHYNEC = phytotoxicity - necrosis /burn
 CONTRO = control / burndown or knockdown
 PHYGEN = phytotoxicity - general / injury

Rating Unit/Min/Max

%, 0, 100 = percent

ROW = row

PLOT = total plot

Plant-Eval Interval

62 DP-1 = 1 ZEAMX Apr-27-2021
 77 DP-1 = 1 ZEAMX Apr-27-2021