

# The Ohio State University

## Corn Showcase Treatments

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

**Trial Status:** E established  
**ARM Trial Created On:** Mar-30-2021  
**Initiation Date:** Apr-23-2021

### 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 °:** 39.85753 N  
**Longitude of LL Corner °:** -83.67004 W  
**Altitude of LL Corner:** 1101.00 FT

**Conducted Under GLP:** No  
**Conducted Under GEP:** No

### 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-R, Glufosinate-R  
**% Germination:** 95  
**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 Moisture:** SLIDRY slightly dry  
**Soil Temperature:** 63 F  
**Emergence Date:** May-14-2021  
**Harvest Date:** Oct-11-2021 **Harvest Equipment:** Kincaid 8XP  
**Moisture Meter:** Harvest Master **Harvested Width:** 5 FT  
**% Standard Moisture:** 15.5 **Harvested Length:** 30 FT  
**Weighing Equipment:** Harvest Master HM800

### Pest Description

**Pest 1 Type:** W **Code:** SETFA *Setaria faberi* **Entry Date:** Jun-7-2021  
**Common Name:** Giant foxtail **Stage Scale:** BBCH

**Pest 2 Type:** W **Code:** ECHCG *Echinochloa crus-galli* **Entry Date:** Jun-25-2021  
**Common Name:** Common barnyard grass **Stage Scale:** BBCH

**Pest 3 Type:** W **Code:** AMBTR *Ambrosia trifida* **Entry Date:** Jun-7-2021  
**Common Name:** Giant ragweed **Stage Scale:** BBCH  
**Attributes:** gly-R

**Pest 4 Type:** W **Code:** CHEAL *Chenopodium album* **Entry Date:** Jun-7-2021  
**Common Name:** common lambsquarters **Stage Scale:** BBCH  
**Attributes:** atrazine-R

**Pest 5 Type:** W **Code:** AMARE *Amaranthus retroflexus* **Entry Date:** Jun-7-2021  
**Common Name:** Redroot pigweed **Stage Scale:** BBCH  
**Attributes:** atrazine-R

**Pest 6 Type:** W **Code:** ABUTH *Abutilon theophrasti* **Entry Date:** Jun-7-2021  
**Common Name:** velvetleaf **Stage Scale:** BBCH

### Site and Design

**Treated Plot Width:** 6.67 FT **Site Type:** FIELD field  
**Treated Plot Length:** 30 FT **Experimental Unit:** 1 PLOT plot  
**Treated Plot Area:** 200.1 FT2 **Treatments:** 10 **Tillage Type:** CONTIL conventional-till  
**Replications:** 4 **Study Design:** RACOB� Randomized Complete Block (RCB)

**Previous**  
**No. Crop Year**  
 1. SOYBEAN 2020

### Soil Description

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

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### Application Description

	A		B	
Application Date	Apr-28-2021		Jun-6-2021	
Appl. Start Time	7:30 AM		9:30 AM	
Appl. Stop Time	8:00 AM		10:00 AM	
Interval to Prev. Appl.			39 DAYS	
Application Method	SPRAY		SPRAY	
Application Timing	PREPRE		POSPOS	
Application Placement	BROSOI		BROFOL	
Applied By	ACKLEY		ACKLEY	
Appl. Entry Date	May-3-2021		Jun-7-2021	
Air Temperature Start, Stop	66	67.7 F	81	83 F
% Relative Humidity Start, Stop	65	63	60	56
Wind Velocity+Dir. Start	6	MPH WSW	5	MPH SSW
Wind Velocity+Dir. Stop	8	MPH WSW	5	MPH SSW
Wind Velocity+Dir. Max	9.2	MPH WSW	6	MPH SSW
Wet Leaves (Y/N)	N no		N no	
Soil Temperature	58	F	67	F
Soil Moisture	DRY		DRY	
Soil Surface Condition	MEDIUM		MEDIUM	
% Cloud Cover	40		60	
Next Moisture Occurred On	Apr-28-2021		Jun-7-2021	
Time to Next Moisture	11.5 HR		22.0 HR	
Moisture 6 Hours after Appl.	0	IN	0	IN
Moisture 1 Week after Appl.	1.1	IN	0.48	IN

### Crop Stage At Each Application

	A		B	
Crop 1 Code, BBCH Scale	ZEAMX	BCOR	ZEAMX	BCOR
Days after Emergence	-16		23	
Stage Majority, Percent	0	100	15	100
Height Average			12	IN
Height Minimum, Maximum			11	13
Stage Majority, Percent	00	100		

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### Pest Stage At Each Application

	A		B	
<b>Pest 1 Code, Type, Scale</b>	SETFA	W BBCH	SETFA	W BBCH
Stage Majority, Percent			13	80
Stage Minimum, Percent			12	10
Stage Maximum, Percent			14	10
Height Average			8	IN
Height Minimum, Maximum			8	10
Density Average			411	PLA/m2
Density Minimum, Maximum			228	676
<b>Pest 2 Code, Type, Scale</b>	ECHCG	W BBCH	ECHCG	W BBCH
Stage Majority, Percent			13	80
Stage Minimum, Percent			12	10
Stage Maximum, Percent			14	10
Height Average			8	IN
Height Minimum, Maximum			8	10
Density Average			78	PLA/m2
Density Minimum, Maximum			48	128
<b>Pest 3 Code, Type, Scale</b>	AMBTR	W BBCH	AMBTR	W BBCH
Stage Majority, Percent			19	80
Stage Minimum, Percent			14	10
Stage Maximum, Percent			19	80
Height Average			8	IN
Height Minimum, Maximum			6	10
Density Average			13	PLA/m2
Density Minimum, Maximum			4	32
<b>Pest 4 Code, Type, Scale</b>	CHEAL	W BBCH	CHEAL	W BBCH
Stage Majority, Percent			16	80
Stage Minimum, Percent			14	10
Stage Maximum, Percent			18	10
Height Average			3	IN
Height Minimum, Maximum			2	3
Density Average			73	PLA/m2
Density Minimum, Maximum			64	88
<b>Pest 5 Code, Type, Scale</b>	AMARE	W BBCH	AMARE	W BBCH
Stage Majority, Percent			14	80
Stage Minimum, Percent			12	10
Stage Maximum, Percent			16	10
Height Average			2	IN
Height Minimum, Maximum			1	2
Density Average			1	PLA/m2
Density Minimum, Maximum			1	1
<b>Pest 6 Code, Type, Scale</b>	ABUTH	W BBCH	ABUTH	W BBCH
Stage Majority, Percent			13	80
Stage Minimum, Percent			12	10
Stage Maximum, Percent			14	10
Height Average			3	IN
Height Minimum, Maximum			2	3
Density Average			0.25	PLA/m2
Density Minimum, Maximum			0	3

### Application Equipment

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

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**Notes**

Context	Date	By	Notes
STATUS	Mar-30-2021	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	Pest Code	Pest Name	Crop Type, Code	Crop Name	Rating Date	Part Rated	Rating Type	Rating Unit/Min/Max	Number of Subsamples	Assessed By	Data Entry Date	Rating Timing	Days After First/Last Applic.	Trt-Eval Interval	Days After Emergence	ARM Action Codes	Number of Decimals
			C ZEAMX	Corn	Oct-11-2021	GRAIN C	WEIGHT	LBS -	1		Oct-12-2021		166 127		150 DE-1	AS	1
			C ZEAMX	Corn	Oct-11-2021	GRAIN C	MOICON	% 0	1		Oct-12-2021		166 127		150 DE-1	ET8	1
			C ZEAMX	Corn	Oct-11-2021	GRAIN C	YIELD	BU - -	1		Oct-12-2021		166 127		150 DE-1	AS TY1	1
			C ZEAMX	Corn	Oct-11-2021	GRAIN C	WEITES	LBS -	1		Oct-12-2021		166 127		150 DE-1	EC	1

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	24* dAS	25*	26* dAS	27*
1	Acuron	3 qt/a		A	35.5 ab	16.6 -	180.9 ab	51.7
2	Resicore	2.5 qt/a		A	19.7 c	15.6 -	101.4 c	49.9 b
	Atrazine	1 qt/a		A				
3	Corvus	5.6 oz/a		A	29.2 bc	16.4 -	149.0 bc	52.6 ab
	Atrazine	1.5 qt/a		A				
4	Bicep II Magnum	1.5 qt/a		A	53.0 a	18.8 -	264.0 a	54.1 a
	Halex GT	3.6 pt/a		B				
	Atrazine	1 pt/a		B				
	NIS	4.8 oz/a		B				
	AMSOL	48 oz/a		B				
5	Harness Xtra 5.6	1.5 pt/a		A	46.9 a	19.1 -	232.5 a	53.2 a
	Impact	0.75 oz/a		B				
	Atrazine	1 pt/a		B				
	HC MSO	9.6 oz/a		B				
	AMSOL	48 oz/a		B				
6	V10494	1 qt/a		A	53.0 a	18.8 -	264.2 a	53.7 a
	Roundup Powermax	32 oz/a		B				
	Status	2.5 oz/a		B				
	NIS	4.8 oz/a		B				
	AMSOL	48 oz/a		B				
7	V10494	1 qt/a		A	53.0 a	18.1 -	266.6 a	53.4 a
	Atrazine	0.75 qt/a		A				
	Roundup Powermax	32 oz/a		B				
	Status	2.5 oz/a		B				
	NIS	4.8 oz/a		B				
	AMSOL	48 oz/a		B				
8	Fearless	1 pt/a		A	49.0 a	20.4	239.0 a	52.3 ab
	Katagon	3.2 oz/a		B				
	HC MSO	19.2 oz/a		B				
9	Fearless	1 pt/a		A	50.4 a	18.9 -	250.6 a	53.7 a
	Katagon	3.2 oz/a		B				
	Atrazine	1 qt/a		B				
	HC MSO	19.2 oz/a		B				

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Treatment	24*	25*	26*	27*
10 UTC	7.6 d	18.8 -	37.5 d	50.0 b
LSD P=.05	6.60 - 13.51	2.65	33.13 - 69.00	2.01
Standard Deviation	0.68t	1.82	1.56t	1.38
CV	11.04t	10.15	11.38t	2.62
Levene's F^	2.17	2.155	1.952	1.21
Levene's Prob(F)	0.054	0.065	0.082	0.33
Skewness^	0.2674	-0.1242	0.2182	-0.5634
Kurtosis^	-0.2242	-0.7164	-0.069	0.4991
Replicate F	5.717	3.180	4.318	1.250
Replicate Prob(F)	0.0037	0.0422	0.0130	0.3136
Treatment F	19.635	2.152	18.599	5.164
Treatment Prob(F)	0.0001	0.0701	0.0001	0.0008

### Crop Type, Code

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

### Part Rated

GRAIN = grain  
 C = Crop is Part Rated

### Rating Type

WEIGHT = weight  
 MOICON = moisture content  
 YIELD = yield  
 WEITES = weight - test

### Rating Unit/Min/Max

%, 0, 100 = percent  
 BU, , = bushel

### ARM Action Codes

AS = Automatic square root transformation of X+0.5  
 ET8 = Excluded treatment 8  
 EC = Do not analyze untreated check, while still reporting treatment mean on AOV Means Table  
 TY1 =  $5.18571429 \cdot [24] \cdot (100 - [25]) / 84.5$