

# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT Location: Western Branch F-9 W Trial Year: 2021  
 Protocol ID: H 2021 204 OH Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

**Discipline:** H herbicide  
**Trial Status:** E established  
**ARM Trial Created On:** Mar-30-2021  
**Initiation Date:** Apr-16-2021

### 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 °:** 39.85886 N  
**Longitude of LL Corner °:** -83.67335 W  
**Altitude of LL Corner:** 1081.00 FT

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

### Crop Description

**Crop 1:** C GLXMA Glycine max  
**Entry Date:** May-17-2021  
**Variety:** Asgrow AG38XF1  
**Attributes:** DICAMBA, GLYPHOSATE, GLUFOSINATE TOL  
**Seed Lot No:** CE0SG62GL1  
**% Germination:** 90  
  
**Planting Date:** May-14-2021  
**Depth:** 1.5 IN  
**Rows per Plot:** 8  
**Row Spacing:** 15 IN  
  
**Soil Temperature:** 60 F  
**Emergence Date:** Jun-1-2021

Soybean **BBCH Scale:** BSOY  
**Stage Scale:** BBCH  
**Maturity Group:** III

**1000 Grain Weight:** 0.375  
**Seed Treatment Products:** Standard-FI/ILEVO  
**Planting Rate:** 175000 S/A

**Planting Method:** PLANTD planted  
**Planting Equipment:** FE field equipment  
**Seed Bed:** MEDIUM medium  
**Soil Moisture:** NORMAL normal, adequate

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### Pest Description

- |                       |   |                                |
|-----------------------|---|--------------------------------|
| <b>Pest 1 Type:</b> W | <b>Code:</b> STEME <i>Stellaria media</i>         | <b>Entry Date:</b> Apr-19-2021 |
|                       | <b>Common Name:</b> Common chickweed              | <b>Stage Scale:</b> BBCH       |
| <b>Pest 2 Type:</b> W | <b>Code:</b> LAMPU <i>Lamium purpureum</i>        | <b>Entry Date:</b> Apr-19-2021 |
|                       | <b>Common Name:</b> Purple deadnettle             | <b>Stage Scale:</b> BBCH       |
| <b>Pest 3 Type:</b> W | <b>Code:</b> VERAG <i>Veronica agrestis</i>       | <b>Entry Date:</b> Apr-19-2021 |
|                       | <b>Common Name:</b> Field speedwell               | <b>Stage Scale:</b> BBCH       |
| <b>Pest 4 Type:</b> W | <b>Code:</b> TAROF <i>Taraxacum officinale</i>    | <b>Entry Date:</b> Apr-19-2021 |
|                       | <b>Common Name:</b> Blowball                      | <b>Stage Scale:</b> BBCH       |
| <b>Pest 5 Type:</b> W | <b>Code:</b> CARPE <i>Cardamine pensylvanica</i>  | <b>Entry Date:</b> Apr-19-2021 |
|                       | <b>Common Name:</b> Pennsylvania bittercress      | <b>Stage Scale:</b> BBCH       |
| <b>Pest 6 Type:</b> W | <b>Code:</b> RANAB <i>Ranunculus abortivus</i>    | <b>Entry Date:</b> Apr-19-2021 |
|                       | <b>Common Name:</b> Smallflower buttercup         | <b>Stage Scale:</b> BBCH       |
| <b>Pest 7 Type:</b> W | <b>Code:</b> ERYRE <i>Erysimum repandum</i>       | <b>Entry Date:</b> Apr-19-2021 |
|                       | <b>Common Name:</b> Bushy wallflower              | <b>Stage Scale:</b> BBCH       |
| <b>Pest 8 Type:</b> W | <b>Code:</b> AMBTR <i>Ambrosia trifida</i>        | <b>Entry Date:</b> Apr-19-2021 |
|                       | <b>Common Name:</b> Giant ragweed                 | <b>Stage Scale:</b> BBCH       |
| <b>Pest 9 Type:</b> W | <b>Code:</b> THLAR <i>Thlaspi arvense</i>         | <b>Entry Date:</b> May-18-2021 |
|                       | <b>Common Name:</b> Fanweed                       | <b>Stage Scale:</b> BBCH       |
| <b>Pest10 Type:</b> W | <b>Code:</b> BROTE <i>Bromus tectorum</i>         | <b>Entry Date:</b> May-18-2021 |
|                       | <b>Common Name:</b> Downy brome                   | <b>Stage Scale:</b> BBCH       |
| <b>Pest11 Type:</b> W | <b>Code:</b> ERICA <i>Erigeron canadensis</i>     | <b>Entry Date:</b> Jun-14-2021 |
|                       | <b>Common Name:</b> Canada horseweed              | <b>Stage Scale:</b> BBCH       |
| <b>Pest12 Type:</b> W | <b>Code:</b> SETFA <i>Setaria faberi</i>          | <b>Entry Date:</b> Jun-14-2021 |
|                       | <b>Common Name:</b> Giant foxtail                 | <b>Stage Scale:</b> BBCH       |
| <b>Pest13 Type:</b> W | <b>Code:</b> POLPY <i>Persicaria pensylvanica</i> | <b>Entry Date:</b> Jun-14-2021 |
|                       | <b>Common Name:</b> annual smartweed              | <b>Stage Scale:</b> BBCH       |
| <b>Pest14 Type:</b> W | <b>Code:</b> AMARE <i>Amaranthus retroflexus</i>  | <b>Entry Date:</b> Jun-14-2021 |
|                       | <b>Common Name:</b> Redroot pigweed               | <b>Stage Scale:</b> BBCH       |

### Site and Design

Treated Plot Width: 10 FT Site Type: FIELD field  
 Treated Plot Length: 30 FT Experimental Unit: 1 PLOT plot  
 Treated Plot Area: 300.0 FT2 Treatments: 8 Tillage Type: NOTILL no-till  
 Replications: 3 Study Design: RACOB L Randomized Complete Block (RCB)

### Previous

No. Crop Year  
 1. WHEAT 2020

### Soil Description

Description Name: F-9 West  
 % Sand: 33 % OM: 1.6 Texture: SIL silt loam  
 % Silt: 53 pH: 6 Soil Name: Crosby  
 % Clay: 15 CEC: 8.6 Fert. Level: G good

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 Project ID: Study Director:  
 Sponsor Contact:

### Application Description

	A	B	C
Application Date	Apr-16-2021	May-14-2021	Jun-11-2021
Appl. Start Time	9:00 AM	5:00 PM	1:30 PM
Appl. Stop Time	9:15 AM	5:15 PM	1:45 PM
Interval to Prev. Appl.		28 DAYS	28 DAYS
Application Method	SPRAY	SPRAY	SPRAY
Application Timing	14 EPP	PREPRE	POST
Application Placement	BROFOL	BROFOL	BROFOL
Applied By	Lamb	Lamb	Dobbels
Appl. Entry Date	Apr-19-2021	May-17-2021	Jun-14-2021
Air Temperature Start, Stop	43 43 F	68 68 F	81 81 F
% Relative Humidity Start, Stop	73 73	22 22	70 70
Wind Velocity+Dir. Start	10 MPH NW	5 MPH NW	6 MPH N
Wind Velocity+Dir. Stop	10 MPH NW	5 MPH NW	6 MPH N
Wind Velocity+Dir. Max	12 MPH NW	5 MPH NW	6 MPH N
Wet Leaves (Y/N)	N no	N no	N no
Soil Temperature	41 F	60 F	78 F
Soil Moisture	MOIST	NORMAL	sliwet
Soil Surface Condition	MEDIUM	MEDIUM	MEDIUM
% Cloud Cover	5	30	60
Next Moisture Occurred On	Apr-21-2021	May-17-2021	Jun-18-2021
Time to Next Moisture	5.0 DAY	3.0 DAY	7.0 DAY
Moisture 6 Hours after Appl.	0 IN	0 IN	0 IN
Moisture 1 Week after Appl.	0.44 IN	0.29 IN	0.34 IN

### Crop Stage At Each Application

	A		B		C	
Crop 1 Code, BBCH Scale	GLXMA	BSOY	GLXMA	BSOY	GLXMA	BSOY
Days after Emergence	-46		-18		10	
Stage Majority, Percent	00	100	00	100	14	100
Height Average					6	IN
Height Minimum, Maximum					6	6.5

### Pest Stage At Each Application

	A		B		C	
Pest 1 Code, Type, Scale	STEME	W BBCH	STEME	W BBCH	STEME	W BBCH
Stage Majority, Percent	65	90				
Stage Minimum, Percent	63	10				
Stage Maximum, Percent	65	90				
Diameter Average	7	IN				
Diameter Minimum, Maximum	6	8				
Height Average	1	IN				
Height Minimum, Maximum	0.5	1				
Density Average	8	PLA/m2				
Pest 2 Code, Type, Scale	LAMPU	W BBCH	LAMPU	W BBCH	LAMPU	W BBCH
Stage Majority, Percent	65	100				
Diameter Average	2	IN				
Diameter Minimum, Maximum	2	3				
Height Average	3	IN				
Height Minimum, Maximum	3	4				
Density Average	6	PLA/m2				
Pest 3 Code, Type, Scale	VERAG	W BBCH	VERAG	W BBCH	VERAG	W BBCH
Stage Majority, Percent	63	80	51	80		
Stage Minimum, Percent	60	10	60	10		
Stage Maximum, Percent	63	80	61	10		
Diameter Average	4	IN	6	IN		
Diameter Minimum, Maximum	3	4	4	7		
Height Average	0.25	IN	8	IN		
Height Minimum, Maximum	0.25	0.5	3	8.5		
Density Average	29	PLA/m2	29	PLA/m2		
Pest 4 Code, Type, Scale	TAROF	W BBCH	TAROF	W BBCH	TAROF	W BBCH
Stage Majority, Percent	65	100	89	90		
Stage Minimum, Percent			65	10		
Diameter Average	8	IN	10	IN		
Diameter Minimum, Maximum	8	10	7	13		
Height Average	1	IN	6	IN		
Height Minimum, Maximum	1	2	4	8		
Density Average	10	PLA/m2	10	PLA/m2		
Pest 5 Code, Type, Scale	CARPE	W BBCH	CARPE	W BBCH	CARPE	W BBCH
Stage Majority, Percent	69	100				
Diameter Average	2	IN				
Diameter Minimum, Maximum	1.5	2				
Height Average	4	IN				
Height Minimum, Maximum	4	5				

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Density Average	6	PLA/m2				
Pest 6 Code, Type, Scale	RANAB	W	BBCH	RANAB	W	BBCH
Stage Majority, Percent	60	50				
Stage Minimum, Percent	55	25				
Stage Maximum, Percent	63	25				
Diameter Average	2	IN				
Diameter Minimum, Maximum	1	2				
Height Average	3	IN				
Height Minimum, Maximum	3	4				
Density Average	0.25	PLA/m2				
Pest 7 Code, Type, Scale	ERYRE	W	BBCH	ERYRE	W	BBCH
Stage Majority, Percent	60	50				
Stage Minimum, Percent	55	10				
Stage Maximum, Percent	60	50				
Diameter Average	3	IN				
Diameter Minimum, Maximum	2	3				
Height Average	8	IN				
Height Minimum, Maximum	8	10				
Density Average	3	PLA/m2				
Pest 8 Code, Type, Scale	AMBTR	W	BBCH	AMBTR	W	BBCH
Stage Majority, Percent	10	100	14	80	18	100
Stage Minimum, Percent			12	10		
Stage Maximum, Percent			16	10		
Diameter Average	1	IN	4	IN		
Diameter Minimum, Maximum	0.5	1	3	5		
Height Average	0.5	IN	5.5	IN	7	IN
Height Minimum, Maximum	0.25	0.5	5	6	6	7
Density Average			7	PLA/m2		
Pest 9 Code, Type, Scale	THLAR	W	BBCH	THLAR	W	BBCH
Stage Majority, Percent			89	90		
Stage Minimum, Percent			81	10		
Diameter Average			6.5	IN		
Diameter Minimum, Maximum			2	11		
Height Average			20.5	IN		
Height Minimum, Maximum			16	25		
Density Average			3	PLA/m2		
Pest10 Code, Type, Scale	BROTE	W	BBCH	BROTE	W	BBCH
Stage Majority, Percent			89	100		
Diameter Average			14	IN		
Diameter Minimum, Maximum			12	16		
Height Average			21	IN		
Height Minimum, Maximum			14	25		
Density Average			38	PLA/m2		
Pest11 Code, Type, Scale	ERICA	W	BBCH	ERICA	W	BBCH
Stage Majority, Percent				19	100	
Height Average			4	IN		
Height Minimum, Maximum			2	4		
Density Average			3	PLA/m2		
Pest12 Code, Type, Scale	SETFA	W	BBCH	SETFA	W	BBCH
Stage Majority, Percent				13	100	
Height Average			6	IN		
Height Minimum, Maximum			4	7		
Density Average			75	PLA/m2		
Pest13 Code, Type, Scale	POLPY	W	BBCH	POLPY	W	BBCH
Stage Majority, Percent				14	100	
Height Average			3	IN		
Height Minimum, Maximum			1	3		
Density Average			2	PLA/m2		
Pest14 Code, Type, Scale	AMARE	W	BBCH	AMARE	W	BBCH
Stage Majority, Percent				16	100	
Height Average			3	IN		
Height Minimum, Maximum			1	3		
Density Average			6	PLA/m2		

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**Application Equipment**

	A		B		C	
Appl. Equipment	10' TTI		10' AIXR		10' AIXR	
Equipment Type	BACCAI		BACCAI		BACCAI	
Operation Pressure	44	PSI	44	PSI	44	PSI
Nozzle Model	110015		110015		110015	
Nozzle Type	TTI		AIXR		AI XR	
Nozzle TradeName					TeeJet	
Nozzle Tip Size, Color					015 green	
Nozzle Spacing	18	IN	18	IN	18	IN
Boom Length	10	FT	10.0	FT	10	FT
Boom Height	20	IN	20	IN	20	IN
Ground Speed	3	MPH	3	MPH	3	MPH
Carrier	WATER		WATER		WATER	
Water Hardness (ppm CaCO3)					250	
Application Amount	15	GAL/AC	15	GAL/AC	15	GAL/AC
Mix Overage					25	mL
Mix Size	2	L	2.0	L	2	L
Spray pH					7.8	
Propellant	COMCO2		COMCO2		COMCO2	
Tank Mix (Y/N)	Y yes		Y yes		Y yes	

**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	Apr-19-2021	Dr. Mark M. Loux	Automatically added by ARM:	Trial Status updated to 'E' when Rating Date entered.	
STATUS	May-17-2021	Dr. Mark M. Loux	Automatically added by ARM:	Trial Status updated to 'E' when Planting Date entered.	
Pest Type		W Weed	W Weed	W Weed	W Weed
Pest Code		STEME	LAMPU	TAROF	CARPE
Pest Scientific Name		Stellaria media	Lamium purpureum	Taraxacum offic>	Cardamine pensy>
Pest Name		chickweed	purple archangel	dandelion	Pennsylvania bi> Smallflower but>

**Crop Type, Code**

Crop Name	Rating Date	Part Rated	Rating Type	Rating Unit/Min/Max	Number of Subsamples	Data Entry Date	Rating Timing	Days After First/Last Applic.	Trt-Eval Interval	Plant-Eval Interval	Days After Emergence	Number of Decimals
	Apr-30-2021		CONTRO	% 0	1	May-3-2021	14 14	14 14	14 DA-A	-14 DP-1	-32 DE-1	0
	Apr-30-2021		CONTRO	% 0 100	1	May-3-2021	14 14	14 14	14 DA-A	-14 DP-1	-32 DE-1	0
	Apr-30-2021		CONTRO	% 0 100	1	May-3-2021	14 14	14 14	14 DA-A	-14 DP-1	-32 DE-1	0
	Apr-30-2021		CONTRO	% 0 100	1	May-3-2021	14 14	14 14	14 DA-A	-14 DP-1	-32 DE-1	0
	Apr-30-2021		CONTRO	% 0 100	1	May-3-2021	14 14	14 14	14 DA-A	-14 DP-1	-32 DE-1	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	1*	2*	3*	4*	5*
1	UTC				0 -	0 -	0	0 -	0
2	NFA-0020104	10.7 oz/a		A	30 -	0 -	38 -	0 -	47 -
	NIS	4.8 oz/a		A					
	Panther MTZ	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
3	Weedar 64	16.8 oz/a		A	30 -	0 -	33 -	0 -	43 -
	NIS	4.8 oz/a		A					
	Panther MTZ	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	STEME	LAMPU	TAROF	CARPE	RANAB
Pest Scientific Name	Stellaria media	Lamium purpureum	Taraxacum offic>	Cardamine pensy>	Ranunculus abor>
Pest Name	chickweed	purple archangel	dandelion	Pennsylvania bi>	Smallflower but>
Crop Type, Code					
Crop Name					
Rating Date	Apr-30-2021	Apr-30-2021	Apr-30-2021	Apr-30-2021	Apr-30-2021
Part Rated					
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100
Number of Subsamples	1	1	1	1	1
Data Entry Date	May-3-2021	May-3-2021	May-3-2021	May-3-2021	May-3-2021
Rating Timing					
Days After First/Last Applic.	14 14	14 14	14 14	14 14	14 14
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A
Plant-Eval Interval	-14 DP-1	-14 DP-1	-14 DP-1	-14 DP-1	-14 DP-1
Days After Emergence	-32 DE-1	-32 DE-1	-32 DE-1	-32 DE-1	-32 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	1*	2*	3*	4*	5*
4	Weedone LV4 NIS	16.7 oz/a	4.8 oz/a	A	30 -	0 -	37 -	0 -	45 -
	Panther MTZ	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
5	Enlist One NIS	16.8 oz/a	4.8 oz/a	A	30 -	0 -	35 -	0 -	35 -
	Panther MTZ	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
6	NFA-0020104 NIS	10.7 oz/a	4.8 oz/a	A	30 -	0 -	33 -	0 -	47 -
	Panther Pro	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
7	NFA-0020104 NIS	10.7 oz/a	4.8 oz/a	A	30 -	0 -	42 -	0 -	45 -
	Authority Elite	25 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					

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Pest Name	chickweed	purple archangel	dandelion	Pennsylvania bi>	Smallflower but>
Crop Type, Code					
Crop Name					
Rating Date	Apr-30-2021	Apr-30-2021	Apr-30-2021	Apr-30-2021	Apr-30-2021
Part Rated					
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100
Number of Subsamples	1	1	1	1	1
Data Entry Date	May-3-2021	May-3-2021	May-3-2021	May-3-2021	May-3-2021
Rating Timing					
Days After First/Last Applic.	14 14	14 14	14 14	14 14	14 14
Trt-Eval Interval	14 DA-A	14 DA-A	14 DA-A	14 DA-A	14 DA-A
Plant-Eval Interval	-14 DP-1	-14 DP-1	-14 DP-1	-14 DP-1	-14 DP-1
Days After Emergence	-32 DE-1	-32 DE-1	-32 DE-1	-32 DE-1	-32 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	1*	2*	3*	4*	5*
8	Weedone LV4 NIS	16.7 oz/a		A	30 -	0 -	43 -	0 -	40 -
	Fierce MTZ	4.8 oz/a		A					
	Credit Xtreme	16 oz/a		B					
	HC MSO	32 oz/a		B					
	AMSOL	16 oz/a		B					
	Cheetah	48 oz/a		B					
	Dual Magnum	32 oz/a		C					
	AMSOL	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
	LSD P=.05						10.8		15.1
	Standard Deviation				0.0	0.0	6.1	0.0	7.6
	CV				0.0	0.0	16.21	0.0	17.62
	Levene's F^				.	.	0.22	.	1.544
	Levene's Prob(F)				.	.	0.964	.	0.278
	Skewness^				.	.	0.4865	.	0.2603
	Kurtosis^				.	.	-0.7647	.	-0.905
	Replicate F				0.000	0.000	0.811	0.000	2.187
	Replicate Prob(F)				1.0000	1.0000	0.4674	1.0000	0.1934
	Treatment F				0.000	0.000	1.276	0.000	0.854
	Treatment Prob(F)				1.0000	1.0000	0.3379	1.0000	0.5737

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Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed				
Pest Code	VERAG	STEME	LAMPU	TAROF	CARPE				
Pest Scientific Name	Veronica agrest>	Stellaria media	Lamium purpureum	Taraxacum offic>	Cardamine pensy>				
Pest Name	Procumbent spee>	chickweed	purple archangel	dandelion	Pennsylvania bi>				
Crop Type, Code									
Crop Name									
Rating Date	Apr-30-2021	May-14-2021	May-14-2021	May-14-2021	May-14-2021				
Part Rated									
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100				
Number of Subsamples	1	1	1	1	1				
Data Entry Date	May-3-2021	May-17-2021	May-17-2021	May-17-2021	May-17-2021				
Rating Timing		AT PLANT	AT PLANT	AT PLANT	AT PLANT				
Days After First/Last Applic.	14 14	28 28	28 28	28 28	28 28				
Trt-Eval Interval	14 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A				
Plant-Eval Interval	-14 DP-1	0 DP-1	0 DP-1	0 DP-1	0 DP-1				
Days After Emergence	-32 DE-1	-18 DE-1	-18 DE-1	-18 DE-1	-18 DE-1				
Number of Decimals	0	0	0	0	0				
Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	6*	7*	8*	9*	10*
1	UTC				0 -	0 c	0 d	0	0 b
2	NFA-0020104	10.7 oz/a	A		0 -	53 b	47 bc	53 -	87 a
	NIS	4.8 oz/a	A						
	Panther MTZ	15 oz/a	B						
	Credit Xtreme	32 oz/a	B						
	HC MSO	16 oz/a	B						
	AMSOL	48 oz/a	B						
	Cheetah	32 oz/a	C						
	Dual Magnum	21.3 oz/a	C						
	AMSOL	48 oz/a	C						
3	Weedar 64	16.8 oz/a	A		0 -	73 a	67 a	43 -	85 a
	NIS	4.8 oz/a	A						
	Panther MTZ	15 oz/a	B						
	Credit Xtreme	32 oz/a	B						
	HC MSO	16 oz/a	B						
	AMSOL	48 oz/a	B						
	Cheetah	32 oz/a	C						
	Dual Magnum	21.3 oz/a	C						
	AMSOL	48 oz/a	C						



# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT Location: Western Branch F-9 W Trial Year: 2021  
 Protocol ID: H 2021 204 OH Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	VERAG	STEME	LAMPU	TAROF	CARPE
Pest Scientific Name	Veronica agrest>	Stellaria media	Lamium purpureum	Taraxacum offic>	Cardamine pensy>
Pest Name	Procumbent spee>	chickweed	purple archangel	dandelion	Pennsylvania bi>
Crop Type, Code					
Crop Name					
Rating Date	Apr-30-2021	May-14-2021	May-14-2021	May-14-2021	May-14-2021
Part Rated					
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100
Number of Subsamples	1	1	1	1	1
Data Entry Date	May-3-2021	May-17-2021	May-17-2021	May-17-2021	May-17-2021
Rating Timing		AT PLANT	AT PLANT	AT PLANT	AT PLANT
Days After First/Last Applic.	14 14	28 28	28 28	28 28	28 28
Trt-Eval Interval	14 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A
Plant-Eval Interval	-14 DP-1	0 DP-1	0 DP-1	0 DP-1	0 DP-1
Days After Emergence	-32 DE-1	-18 DE-1	-18 DE-1	-18 DE-1	-18 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	6*	7*	8*	9*	10*
4	Weedone LV4	16.7 oz/a		A	0 -	73 a	40 bc	48 -	85 a
	NIS	4.8 oz/a		A					
	Panther MTZ	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
5	Enlist One	16.8 oz/a		A	0 -	77 a	33 c	47 -	85 a
	NIS	4.8 oz/a		A					
	Panther MTZ	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
6	NFA-0020104	10.7 oz/a		A	0 -	70 a	55 ab	53 -	87 a
	NIS	4.8 oz/a		A					
	Panther Pro	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
7	NFA-0020104	10.7 oz/a		A	0 -	67 a	47 bc	47 -	85 a
	NIS	4.8 oz/a		A					
	Authority Elite	25 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					

# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT      Location: Western Branch F-9 W      Trial Year: 2021  
 Protocol ID: H 2021 204 OH      Investigator (Creator): Dr. Mark M. Loux  
 Project ID:      Study Director:  
    Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed				
Pest Code	VERAG	STEME	LAMPU	TAROF	CARPE				
Pest Scientific Name	Veronica agrest>	Stellaria media	Lamium purpureum	Taraxacum offic>	Cardamine pensy>				
Pest Name	Procumbent spee>	chickweed	purple archangel	dandelion	Pennsylvania bi>				
Crop Type, Code									
Crop Name									
Rating Date	Apr-30-2021	May-14-2021	May-14-2021	May-14-2021	May-14-2021				
Part Rated									
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100				
Number of Subsamples	1	1	1	1	1				
Data Entry Date	May-3-2021	May-17-2021	May-17-2021	May-17-2021	May-17-2021				
Rating Timing		AT PLANT	AT PLANT	AT PLANT	AT PLANT				
Days After First/Last Applic.	14 14	28 28	28 28	28 28	28 28				
Trt-Eval Interval	14 DA-A	28 DA-A	28 DA-A	28 DA-A	28 DA-A				
Plant-Eval Interval	-14 DP-1	0 DP-1	0 DP-1	0 DP-1	0 DP-1				
Days After Emergence	-32 DE-1	-18 DE-1	-18 DE-1	-18 DE-1	-18 DE-1				
Number of Decimals	0	0	0	0	0				
Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	6*	7*	8*	9*	10*
8	Weedone LV4	16.7 oz/a		A	0 -	70 a	45 bc	43 -	87 a
	NIS	4.8 oz/a		A					
	Fierce MTZ	16 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
	LSD P=.05					8.1	11.6	7.2	4.1
	Standard Deviation				0.0	4.6	6.5	4.0	2.3
	CV				0.0	7.66	15.9	8.43	3.09
	Levene's F^				.	0.327	0.613	0.549	0.742
	Levene's Prob(F)				.	0.93	0.737	0.763	0.641
	Skewness^				.	0.5034	-0.0848	-0.4006	0.1678
	Kurtosis^				.	0.0913	-1.098	-0.1169	0.0913
	Replicate F				0.000	5.444	0.698	6.805	2.333
	Replicate Prob(F)				1.0000	0.0178	0.5168	0.0106	0.1335
	Treatment F				0.000	90.417	26.392	3.195	514.667
	Treatment Prob(F)				1.0000	0.0001	0.0001	0.0411	0.0001

# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT Location: Western Branch F-9 W Trial Year: 2021  
 Protocol ID: H 2021 204 OH Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed				
Pest Code	RANAB	VERAG	ERICA	SETFA	AMBTR				
Pest Scientific Name	Ranunculus abor>	Veronica agrest>	Erigeron canad>	Setaria faberi	Ambrosia trifida				
Pest Name	Smallflower but>	Procumbent spee>	Hogweed	Giant foxtail	Giant ragweed				
Crop Type, Code									
Crop Name									
Rating Date	May-14-2021	May-14-2021	May-14-2021	Jun-1-2021	Jun-1-2021				
Part Rated									
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	% 0 100				
Number of Subsamples	1	1	1	1	1				
Data Entry Date	May-17-2021	May-17-2021	May-17-2021	Jun-22-2021	Jun-22-2021				
Rating Timing	AT PLANT	AT PLANT	AT PLANT						
Days After First/Last Applic.	28 28	28 28	28 28	46 18	46 18				
Trt-Eval Interval	28 DA-A	28 DA-A	28 DA-A	18 DA-B	18 DA-B				
Plant-Eval Interval	0 DP-1	0 DP-1	0 DP-1	18 DP-1	18 DP-1				
Days After Emergence	-18 DE-1	-18 DE-1	-18 DE-1	0 DE-1	0 DE-1				
Number of Decimals	0	0	0	0	0				
Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	11*	12*	13*	14*	15*
1	UTC				0 b	0 b	0 b	0 b	0
2	NFA-0020104	10.7 oz/a	A		56 a	10 a	50 a	93 a	68 -
	NIS	4.8 oz/a	A						
	Panther MTZ	15 oz/a	B						
	Credit Xtreme	32 oz/a	B						
	HC MSO	16 oz/a	B						
	AMSOL	48 oz/a	B						
	Cheetah	32 oz/a	C						
	Dual Magnum	21.3 oz/a	C						
	AMSOL	48 oz/a	C						
3	Weedar 64	16.8 oz/a	A		56 a	10 a	60 a	95 a	68 -
	NIS	4.8 oz/a	A						
	Panther MTZ	15 oz/a	B						
	Credit Xtreme	32 oz/a	B						
	HC MSO	16 oz/a	B						
	AMSOL	48 oz/a	B						
	Cheetah	32 oz/a	C						
	Dual Magnum	21.3 oz/a	C						
	AMSOL	48 oz/a	C						

# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT Location: Western Branch F-9 W Trial Year: 2021  
 Protocol ID: H 2021 204 OH Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	RANAB	VERAG	ERICA	SETFA	AMBTR
Pest Scientific Name	Ranunculus abor>	Veronica agrest>	Erigeron canad>	Setaria faberi	Ambrosia trifida
Pest Name	Smallflower but>	Procumbent spee>	Hogweed	Giant foxtail	Giant ragweed
Crop Type, Code					
Crop Name					
Rating Date	May-14-2021	May-14-2021	May-14-2021	Jun-1-2021	Jun-1-2021
Part Rated					
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 % 100	% 0 100
Number of Subsamples	1	1	1	1	1
Data Entry Date	May-17-2021	May-17-2021	May-17-2021	Jun-22-2021	Jun-22-2021
Rating Timing	AT PLANT	AT PLANT	AT PLANT		
Days After First/Last Applic.	28 28	28 28	28 28	46 18	46 18
Trt-Eval Interval	28 DA-A	28 DA-A	28 DA-A	18 DA-B	18 DA-B
Plant-Eval Interval	0 DP-1	0 DP-1	0 DP-1	18 DP-1	18 DP-1
Days After Emergence	-18 DE-1	-18 DE-1	-18 DE-1	0 DE-1	0 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	11*	12* dAS	13* dAA	14*	15*
4	Weedone LV4	16.7 oz/a		A	56 a	10 a	57 a	95 a	70 -
	NIS	4.8 oz/a		A					
	Panther MTZ	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
5	Enlist One	16.8 oz/a		A	50 a	10 a	53 a	89 a	75 -
	NIS	4.8 oz/a		A					
	Panther MTZ	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
6	NFA-0020104	10.7 oz/a		A	56 a	10 a	50 a	100 a	68 -
	NIS	4.8 oz/a		A					
	Panther Pro	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
7	NFA-0020104	10.7 oz/a		A	49 a	2 b	50 a	98 a	72 -
	NIS	4.8 oz/a		A					
	Authority Elite	25 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					

# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT Location: Western Branch F-9 W Trial Year: 2021  
 Protocol ID: H 2021 204 OH Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	RANAB	VERAG	ERICA	SETFA	AMBTR
Pest Scientific Name	Ranunculus	Veronica agrest>	Erigeron	Setaria faberi	Ambrosia
	abor>		canade>		trifida
Pest Name	Smallflower but>	Procumbent spee>	Hogweed	Giant foxtail	Giant ragweed

Crop Type, Code					
Crop Name					
Rating Date	May-14-2021	May-14-2021	May-14-2021	Jun-1-2021	Jun-1-2021
Part Rated					
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 % 100	% 0 100
				100	
Number of Subsamples	1	1	1	1	1
Data Entry Date	May-17-2021	May-17-2021	May-17-2021	Jun-22-2021	Jun-22-2021
Rating Timing	AT PLANT	AT PLANT	AT PLANT		
Days After First/Last Applic.	28 28	28 28	28 28	46 18	46 18
Trt-Eval Interval	28 DA-A	28 DA-A	28 DA-A	18 DA-B	18 DA-B
Plant-Eval Interval	0 DP-1	0 DP-1	0 DP-1	18 DP-1	18 DP-1
Days After Emergence	-18 DE-1	-18 DE-1	-18 DE-1	0 DE-1	0 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	11*	12* dAS	13* dAA	14*	15*
8	Weedone LV4	16.7 oz/a		A	53 a	10 a	57 a	100 a	70 -
	NIS	4.8 oz/a		A					
	Fierce MTZ	16 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
	LSD P=.05				9.8	3.6 - 5.0	6.5 - 6.5	10.9	9.3
	Standard Deviation				5.2	0.5t	2.1t	6.2	5.2
	CV				11.03	19.06t	5.17t	7.44	7.45
	Levene's F^				3.172	0.643	0.697	0.698	0.339
	Levene's Prob(F)				0.048*	0.715	0.675	0.674	0.905
	Skewness^				0.0806	1.7125*	-0.4518	-0.61	0.2329
	Kurtosis^				-0.848	8.0329*	1.4104	0.7707	-0.8372
	Replicate F				0.919	1.000	0.304	1.959	1.609
	Replicate Prob(F)				0.4373	0.3927	0.7424	0.1778	0.2405
	Treatment F				26.849	11.286	186.451	89.506	0.652
	Treatment Prob(F)				0.0001	0.0001	0.0001	0.0001	0.6887

# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT Location: Western Branch F-9 W Trial Year: 2021  
 Protocol ID: H 2021 204 OH Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	
Pest Code	ERICA	CHEAL	AMBEL	TAROF	
Pest Scientific Name	Erigeron canadensis	Chenopodium album	Ambrosia artemisiifolia	Taraxacum officinale	SOYBEAN
Pest Name	Hogweed	common lambsquarters	Common ragweed	Blowball	
Crop Type, Code					C GLXMA
Crop Name					Soybean
Rating Date	Jun-1-2021	Jun-1-2021	Jun-1-2021	Jun-1-2021	Jun-11-2021
Part Rated					PLANT -
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	%VISUAL 0 100
Number of Subsamples	1	1	1	1	1
Data Entry Date	Jun-22-2021	Jun-22-2021	Jun-22-2021	Jun-22-2021	Jun-21-2021
Rating Timing					AT POST
Days After First/Last Applic.	46 18	46 18	46 18	46 18	56 28
Trt-Eval Interval	18 DA-B	18 DA-B	18 DA-B	18 DA-B	28 DA-B
Plant-Eval Interval	18 DP-1	18 DP-1	18 DP-1	18 DP-1	28 DP-1
Days After Emergence	0 DE-1	0 DE-1	0 DE-1	0 DE-1	10 DE-1
Number of Decimals	0	0	0	0	0
Trt No.	16*	17*	18*	19*	20*
Treatment Name	dAA				dAS

1 UTC				0 b	0 -	0 -	0 b	0 -
2 NFA-0020104	10.7 oz/a	A		87 a	100 -	100 -	100 a	0 -
NIS	4.8 oz/a	A						
Panther MTZ	15 oz/a	B						
Credit Xtreme	32 oz/a	B						
HC MSO	16 oz/a	B						
AMSOL	48 oz/a	B						
Cheetah	32 oz/a	C						
Dual Magnum	21.3 oz/a	C						
AMSOL	48 oz/a	C						
3 Weedar 64	16.8 oz/a	A		100 a	100 -	100 -	97 a	0 -
NIS	4.8 oz/a	A						
Panther MTZ	15 oz/a	B						
Credit Xtreme	32 oz/a	B						
HC MSO	16 oz/a	B						
AMSOL	48 oz/a	B						
Cheetah	32 oz/a	C						
Dual Magnum	21.3 oz/a	C						
AMSOL	48 oz/a	C						

# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT Location: Western Branch F-9 W Trial Year: 2021  
 Protocol ID: H 2021 204 OH Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	
Pest Code	ERICA	CHEAL	AMBEL	TAROF	
Pest Scientific Name	Erigeron canadese>	Chenopodium alb>	Ambrosia artemi>	Taraxacum offic>	SOYBEAN
Pest Name	Hogweed	common lambsqua>	Common ragweed	Blowball	
Crop Type, Code					C GLXMA
Crop Name					Soybean
Rating Date	Jun-1-2021	Jun-1-2021	Jun-1-2021	Jun-1-2021	Jun-11-2021
Part Rated					PLANT -
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	%VISUAL 0 100
Number of Subsamples	1	1	1	1	1
Data Entry Date	Jun-22-2021	Jun-22-2021	Jun-22-2021	Jun-22-2021	Jun-21-2021
Rating Timing					AT POST
Days After First/Last Applic.	46 18	46 18	46 18	46 18	56 28
Trt-Eval Interval	18 DA-B	18 DA-B	18 DA-B	18 DA-B	28 DA-B
Plant-Eval Interval	18 DP-1	18 DP-1	18 DP-1	18 DP-1	28 DP-1
Days After Emergence	0 DE-1	0 DE-1	0 DE-1	0 DE-1	10 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	16* dAA	17*	18*	19*	20* dAS
4	Weedone LV4	16.7 oz/a		A	90 a	100 -	100 -	100 a	0 -
	NIS	4.8 oz/a		A					
	Panther MTZ	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
5	Enlist One	16.8 oz/a		A	98 a	100 -	100 -	95 a	0 -
	NIS	4.8 oz/a		A					
	Panther MTZ	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
6	NFA-0020104	10.7 oz/a		A	99 a	100 -	100 -	97 a	0 -
	NIS	4.8 oz/a		A					
	Panther Pro	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
7	NFA-0020104	10.7 oz/a		A	83 a	100 -	100 -	85 a	0 -
	NIS	4.8 oz/a		A					
	Authority Elite	25 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					

# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT Location: Western Branch F-9 W Trial Year: 2021  
 Protocol ID: H 2021 204 OH Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed					
Pest Code	ERICA	CHEAL	AMBEL	TAROF					
Pest Scientific Name	Erigeron canad>	Chenopodium alb>	Ambrosia artemi>	Taraxacum offic>	SOYBEAN				
Pest Name	Hogweed	common lambsqua>	Common ragweed	Blowball					
Crop Type, Code					C GLXMA				
Crop Name					Soybean				
Rating Date	Jun-1-2021	Jun-1-2021	Jun-1-2021	Jun-1-2021	Jun-11-2021				
Part Rated					PLANT -				
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN				
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100	%VISUAL 0 100				
Number of Subsamples	1	1	1	1	1				
Data Entry Date	Jun-22-2021	Jun-22-2021	Jun-22-2021	Jun-22-2021	Jun-21-2021				
Rating Timing					AT POST				
Days After First/Last Applic.	46 18	46 18	46 18	46 18	56 28				
Trt-Eval Interval	18 DA-B	18 DA-B	18 DA-B	18 DA-B	28 DA-B				
Plant-Eval Interval	18 DP-1	18 DP-1	18 DP-1	18 DP-1	28 DP-1				
Days After Emergence	0 DE-1	0 DE-1	0 DE-1	0 DE-1	10 DE-1				
Number of Decimals	0	0	0	0	0				
Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	16* dAA	17*	18*	19*	20* dAS
8	Weedone LV4	16.7 oz/a		A	98 a	100 -	100 -	100 a	0 -
	NIS	4.8 oz/a		A					
	Fierce MTZ	16 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
	LSD P=.05				11.2 - 16.1	.	.	9.6	0.3 - 0.5
	Standard Deviation				11.2t	0.0	0.0	5.5	0.2t
	CV				16.49t	0.0	0.0	6.5	20.62t
	Levene's F^				0.034	.	.	0.614	0.913
	Levene's Prob(F)				1.00	.	.	0.737	0.521
	Skewness^				0.2657	.	.	-0.1876	1.3259*
	Kurtosis^				-1.4588	.	.	0.5084	3.3106*
	Replicate F				6.094	0.000	0.000	0.244	0.467
	Replicate Prob(F)				0.0125	1.0000	1.0000	0.7869	0.6365
	Treatment F				19.629	0.000	0.000	118.448	0.800
	Treatment Prob(F)				0.0001	1.0000	1.0000	0.0001	0.6004



# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT Location: Western Branch F-9 W Trial Year: 2021  
 Protocol ID: H 2021 204 OH Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	SETFA	AMBTR	ERICA	CHEAL	AMBEL
Pest Scientific Name	Setaria faberi	Ambrosia trifida	Erigeron canadensis	Chenopodium album	Ambrosia artemisiifolia
Pest Name	Giant foxtail	Giant ragweed	Hogweed	common lambsquarters	Common ragweed
Crop Type, Code					
Crop Name					
Rating Date	Jun-11-2021	Jun-11-2021	Jun-11-2021	Jun-11-2021	Jun-11-2021
Part Rated					
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	%VISUAL -	%VISUAL -	%VISUAL -	%VISUAL -	%VISUAL -
Number of Subsamples	1	1	1	1	1
Data Entry Date	Jun-21-2021	Jun-21-2021	Jun-21-2021	Jun-21-2021	Jun-21-2021
Rating Timing	AT POST	AT POST	AT POST	AT POST	AT POST
Days After First/Last Applic.	56 28	56 28	56 28	56 28	56 28
Trt-Eval Interval	28 DA-B	28 DA-B	28 DA-B	28 DA-B	28 DA-B
Plant-Eval Interval	28 DP-1	28 DP-1	28 DP-1	28 DP-1	28 DP-1
Days After Emergence	10 DE-1	10 DE-1	10 DE-1	10 DE-1	10 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	21*	22*	23* dAA	24*	25* dAS
1	UTC				0	0 b	0 c	0 -	0 b
2	NFA-0020104	10.7 oz/a		A	77 -	68 a	75 a	100 -	100 a
	NIS	4.8 oz/a		A					
	Panther MTZ	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
3	Weedar 64	16.8 oz/a		A	77 -	62 a	75 a	100 -	93 a
	NIS	4.8 oz/a		A					
	Panther MTZ	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					

# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT Location: Western Branch F-9 W Trial Year: 2021  
 Protocol ID: H 2021 204 OH Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	SETFA	AMBTR	ERICA	CHEAL	AMBEL
Pest Scientific Name	Setaria faberi	Ambrosia trifida	Erigeron canadensis	Chenopodium album	Ambrosia artemisiifolia
Pest Name	Giant foxtail	Giant ragweed	Hogweed	common lambsquarters	Common ragweed
Crop Type, Code					
Crop Name					
Rating Date	Jun-11-2021	Jun-11-2021	Jun-11-2021	Jun-11-2021	Jun-11-2021
Part Rated					
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	%VISUAL -	%VISUAL -	%VISUAL -	%VISUAL -	%VISUAL -
Number of Subsamples	1	1	1	1	1
Data Entry Date	Jun-21-2021	Jun-21-2021	Jun-21-2021	Jun-21-2021	Jun-21-2021
Rating Timing	AT POST	AT POST	AT POST	AT POST	AT POST
Days After First/Last Applic.	56 28	56 28	56 28	56 28	56 28
Trt-Eval Interval	28 DA-B	28 DA-B	28 DA-B	28 DA-B	28 DA-B
Plant-Eval Interval	28 DP-1	28 DP-1	28 DP-1	28 DP-1	28 DP-1
Days After Emergence	10 DE-1	10 DE-1	10 DE-1	10 DE-1	10 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	21*	22*	23* dAA	24*	25* dAS
4	Weedone LV4	16.7 oz/a		A	73 -	65 a	86 a	100 -	100 a
	NIS	4.8 oz/a		A					
	Panther MTZ	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
5	Enlist One	16.8 oz/a		A	72 -	62 a	98 a	100 -	100 a
	NIS	4.8 oz/a		A					
	Panther MTZ	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
6	NFA-0020104	10.7 oz/a		A	90 -	65 a	90 a	100 -	100 a
	NIS	4.8 oz/a		A					
	Panther Pro	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
7	NFA-0020104	10.7 oz/a		A	87 -	45 a	36 b	100 -	100 a
	NIS	4.8 oz/a		A					
	Authority Elite	25 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					

# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT      Location: Western Branch F-9 W      Trial Year: 2021  
 Protocol ID: H 2021 204 OH      Investigator (Creator): Dr. Mark M. Loux  
 Project ID:      Study Director:  
    Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed	W Weed
Pest Code	SETFA	AMBTR	ERICA	CHEAL	AMBEL
Pest Scientific Name	Setaria faberi	Ambrosia trifida	Erigeron canadensis	Chenopodium album	Ambrosia artemisiifolia
Pest Name	Giant foxtail	Giant ragweed	Hogweed	common lambsquarters	Common ragweed
Crop Type, Code					
Crop Name					
Rating Date	Jun-11-2021	Jun-11-2021	Jun-11-2021	Jun-11-2021	Jun-11-2021
Part Rated					
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	%VISUAL -	%VISUAL -	%VISUAL -	%VISUAL -	%VISUAL -
Number of Subsamples	1	1	1	1	1
Data Entry Date	Jun-21-2021	Jun-21-2021	Jun-21-2021	Jun-21-2021	Jun-21-2021
Rating Timing	AT POST	AT POST	AT POST	AT POST	AT POST
Days After First/Last Applic.	56 28	56 28	56 28	56 28	56 28
Trt-Eval Interval	28 DA-B	28 DA-B	28 DA-B	28 DA-B	28 DA-B
Plant-Eval Interval	28 DP-1	28 DP-1	28 DP-1	28 DP-1	28 DP-1
Days After Emergence	10 DE-1	10 DE-1	10 DE-1	10 DE-1	10 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	21*	22*	23* dAA	24*	25* dAS
8	Weedone LV4	16.7 oz/a		A	92 -	65 a	77 a	100 -	93 a
	NIS	4.8 oz/a		A					
	Fierce MTZ	16 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
	LSD P=.05				12.6	16.9	15.6 - 28.0	.	10.7 - 11.0
	Standard Deviation				7.1	9.7	9.3t	0.0	0.3t
	CV				8.72	17.93	16.93t	0.0	3.59t
	Levene's F^				0.565	1.075	0.148	.	0.913
	Levene's Prob(F)				0.752	0.423	0.992	.	0.521
	Skewness^				-0.7595	-0.4837	0.1854	.	-1.3259*
	Kurtosis^				0.4013	2.6957*	-1.2128	.	3.3106*
	Replicate F				4.040	0.746	7.115	0.000	0.467
	Replicate Prob(F)				0.0456	0.4924	0.0074	1.0000	0.6365
	Treatment F				4.120	16.863	22.734	0.000	322.722
	Treatment Prob(F)				0.0177	0.0001	0.0001	1.0000	0.0001

# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT Location: Western Branch F-9 W Trial Year: 2021  
 Protocol ID: H 2021 204 OH Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed		W Weed	W Weed
Pest Code	TAROF	AMARE		SETFA	ECHSS
Pest Scientific Name	Taraxacum offic>	Amaranthus retr>	SOYBEAN	Setaria faberi	Echinochloa sp.
Pest Name	Blowball	Redroot pigweed		Giant foxtail	Barnyardgrass
Crop Type, Code			C GLXMA		
Crop Name			Soybean		
Rating Date	Jun-11-2021	Jun-11-2021	Jul-12-2021	Jul-12-2021	Jul-12-2021
Part Rated			PLANT -		
Rating Type	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO
Rating Unit/Min/Max	%VISUAL -	%VISUAL 0	%VISUAL 0	%VISUAL -	%VISUAL -
		100	100		
Number of Subsamples	1	1	1	1	1
Data Entry Date	Jun-21-2021	Jun-21-2021	Jul-14-2021	Jul-14-2021	Jul-14-2021
Rating Timing	AT POST	AT POST			
Days After First/Last Applic.	56 28	56 28	87 31	87 31	87 31
Trt-Eval Interval	28 DA-B	28 DA-B	31 DA-C	31 DA-C	31 DA-C
Plant-Eval Interval	28 DP-1	28 DP-1	59 DP-1	59 DP-1	59 DP-1
Days After Emergence	10 DE-1	10 DE-1	41 DE-1	41 DE-1	41 DE-1
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	26*	27*	28*	29*	30*
1	UTC				0 b	0 d	0 -	0	0
2	NFA-0020104	10.7 oz/a	A		93 a	87 ab	0 -	77 -	77 -
	NIS	4.8 oz/a	A						
	Panther MTZ	15 oz/a	B						
	Credit Xtreme	32 oz/a	B						
	HC MSO	16 oz/a	B						
	AMSOL	48 oz/a	B						
	Cheetah	32 oz/a	C						
	Dual Magnum	21.3 oz/a	C						
	AMSOL	48 oz/a	C						
3	Weedar 64	16.8 oz/a	A		100 a	77 bc	0 -	82 -	83 -
	NIS	4.8 oz/a	A						
	Panther MTZ	15 oz/a	B						
	Credit Xtreme	32 oz/a	B						
	HC MSO	16 oz/a	B						
	AMSOL	48 oz/a	B						
	Cheetah	32 oz/a	C						
	Dual Magnum	21.3 oz/a	C						
	AMSOL	48 oz/a	C						

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## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT Location: Western Branch F-9 W Trial Year: 2021  
 Protocol ID: H 2021 204 OH Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	TAROF	AMARE	SETFA	ECHSS
Pest Scientific Name	Taraxacum offic>	Amaranthus retr>	SOYBEAN	Setaria faberi Echinochloa sp.
Pest Name	Blowball	Redroot pigweed		Giant foxtail Barnyardgrass
Crop Type, Code			C GLXMA	
Crop Name			Soybean	
Rating Date	Jun-11-2021	Jun-11-2021	Jul-12-2021	Jul-12-2021
Part Rated			PLANT -	
Rating Type	CONTRO	CONTRO	PHYGEN	CONTRO CONTRO
Rating Unit/Min/Max	%VISUAL -	%VISUAL 0 100	%VISUAL 0	%VISUAL - %VISUAL - -
Number of Subsamples	1	1	1	1
Data Entry Date	Jun-21-2021	Jun-21-2021	Jul-14-2021	Jul-14-2021
Rating Timing	AT POST	AT POST		
Days After First/Last Applic.	56 28	56 28	87 31	87 31
Trt-Eval Interval	28 DA-B	28 DA-B	31 DA-C	31 DA-C
Plant-Eval Interval	28 DP-1	28 DP-1	59 DP-1	59 DP-1
Days After Emergence	10 DE-1	10 DE-1	41 DE-1	41 DE-1
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	26*	27*	28*	29*	30*
4	Weedone LV4 NIS	16.7 oz/a	4.8 oz/a	A	98 a	68 c	0 -	80 -	80 -
	Panther MTZ	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
5	Enlist One NIS	16.8 oz/a	4.8 oz/a	A	93 a	82	0 -	80 -	82 -
	Panther MTZ	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
6	NFA-0020104 NIS	10.7 oz/a	4.8 oz/a	A	98 a	100 a	0 -	80 -	78 -
	Panther Pro	15 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
7	NFA-0020104 NIS	10.7 oz/a	4.8 oz/a	A	82 a	78 bc	0 -	77 -	77 -
	Authority Elite	25 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					

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## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT Location: Western Branch F-9 W Trial Year: 2021  
 Protocol ID: H 2021 204 OH Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed					
Pest Code	TAROF	AMARE	SETFA	ECHSS					
Pest Scientific Name	Taraxacum offic>	Amaranthus retr>	SOYBEAN	Setaria faberi	Echinochloa sp.				
Pest Name	Blowball	Redroot pigweed		Giant foxtail	Barnyardgrass				
Crop Type, Code			C GLXMA						
Crop Name			Soybean						
Rating Date	Jun-11-2021	Jun-11-2021	Jul-12-2021	Jul-12-2021	Jul-12-2021				
Part Rated			PLANT -						
Rating Type	CONTRO	CONTRO	PHYGEN	CONTRO	CONTRO				
Rating Unit/Min/Max	%VISUAL -	%VISUAL 0	%VISUAL 0	%VISUAL -	%VISUAL -				
Number of Subsamples	1	1	1	1	1				
Data Entry Date	Jun-21-2021	Jun-21-2021	Jul-14-2021	Jul-14-2021	Jul-14-2021				
Rating Timing	AT POST	AT POST							
Days After First/Last Applic.	56 28	56 28	87 31	87 31	87 31				
Trt-Eval Interval	28 DA-B	28 DA-B	31 DA-C	31 DA-C	31 DA-C				
Plant-Eval Interval	28 DP-1	28 DP-1	59 DP-1	59 DP-1	59 DP-1				
Days After Emergence	10 DE-1	10 DE-1	41 DE-1	41 DE-1	41 DE-1				
Number of Decimals	0	0	0	0	0				
Trt No.	Treatment Name	Other Rate	Other Rate	Appl Unit Code	26*	27*	28*	29*	30*
8	Weedone LV4 NIS	16.7 oz/a	4.8 oz/a	A	98 a	93 a	0 -	78 -	75 -
	Fierce MTZ	16 oz/a		B					
	Credit Xtreme	32 oz/a		B					
	HC MSO	16 oz/a		B					
	AMSOL	48 oz/a		B					
	Cheetah	32 oz/a		C					
	Dual Magnum	21.3 oz/a		C					
	AMSOL	48 oz/a		C					
	LSD P=.05				11.7	11.3	.	8.0	7.3
	Standard Deviation				6.7	6.4	0.0	4.5	4.1
	CV				8.04	8.87	0.0	5.69	5.21
	Levene's F^				1.025	0.438	.	0.128	0.261
	Levene's Prob(F)				0.451	0.842	.	0.991	0.946
	Skewness^				0.3409	0.1146	.	0.5597	0.2453
	Kurtosis^				2.1351*	-0.3942	.	-1.0481	-0.8433
	Replicate F				2.552	3.015	0.000	3.059	6.847
	Replicate Prob(F)				0.1135	0.0869	1.0000	0.0844	0.0104
	Treatment F				78.007	82.527	0.000	0.529	1.600
	Treatment Prob(F)				0.0001	0.0001	1.0000	0.7761	0.2298

# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT Location: Western Branch F-9 W Trial Year: 2021  
 Protocol ID: H 2021 204 OH Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	AMBTR	ERICA	CHEAL	AMARE
Pest Scientific Name	Ambrosia trifida	Erigeron canad>	Chenopodium alb>	Amaranthus retr>
Pest Name	Giant ragweed	Hogweed	common lambsqua>	Redroot pigweed
Crop Type, Code				
Crop Name				
Rating Date	Jul-12-2021	Jul-12-2021	Jul-12-2021	Jul-12-2021
Part Rated				
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100
Number of Subsamples	1	1	1	1
Data Entry Date	Jul-14-2021	Jul-14-2021	Jul-14-2021	Jul-14-2021
Rating Timing				
Days After First/Last Applic.	87 31	87 31	87 31	87 31
Trt-Eval Interval	31 DA-C	31 DA-C	31 DA-C	31 DA-C
Plant-Eval Interval	59 DP-1	59 DP-1	59 DP-1	59 DP-1
Days After Emergence	41 DE-1	41 DE-1	41 DE-1	41 DE-1
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Rate Unit	Appl Code	31*	32*	33* dAA	34*
1	UTC				0	0 b	0 c	0
2	NFA-0020104	10.7 oz/a		A	43 -	100 a	77 b	37 b
	NIS	4.8 oz/a		A				
	Panther MTZ	15 oz/a		B				
	Credit Xtreme	32 oz/a		B				
	HC MSO	16 oz/a		B				
	AMSOL	48 oz/a		B				
	Cheetah	32 oz/a		C				
	Dual Magnum	21.3 oz/a		C				
	AMSOL	48 oz/a		C				
3	Weedar 64	16.8 oz/a		A	60 -	100 a	75 b	58 ab
	NIS	4.8 oz/a		A				
	Panther MTZ	15 oz/a		B				
	Credit Xtreme	32 oz/a		B				
	HC MSO	16 oz/a		B				
	AMSOL	48 oz/a		B				
	Cheetah	32 oz/a		C				
	Dual Magnum	21.3 oz/a		C				
	AMSOL	48 oz/a		C				

# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT Location: Western Branch F-9 W Trial Year: 2021  
 Protocol ID: H 2021 204 OH Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed
Pest Code	AMBTR	ERICA	CHEAL	AMARE
Pest Scientific Name	Ambrosia trifida	Erigeron canadensis	Chenopodium album	Amaranthus retrofractus
Pest Name	Giant ragweed	Hogweed	common lambsquarters	Redroot pigweed
Crop Type, Code				
Crop Name				
Rating Date	Jul-12-2021	Jul-12-2021	Jul-12-2021	Jul-12-2021
Part Rated				
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100
Number of Subsamples	1	1	1	1
Data Entry Date	Jul-14-2021	Jul-14-2021	Jul-14-2021	Jul-14-2021
Rating Timing				
Days After First/Last Applic.	87 31	87 31	87 31	87 31
Trt-Eval Interval	31 DA-C	31 DA-C	31 DA-C	31 DA-C
Plant-Eval Interval	59 DP-1	59 DP-1	59 DP-1	59 DP-1
Days After Emergence	41 DE-1	41 DE-1	41 DE-1	41 DE-1
Number of Decimals	0	0	0	0

Trt No.	Treatment Name	Other Rate	Other Unit	Appl Code	31*	32*	33* dAA	34*
4	Weedone LV4	16.7 oz/a		A	48 -	100 a	86 ab	52 ab
	NIS	4.8 oz/a		A				
	Panther MTZ	15 oz/a		B				
	Credit Xtreme	32 oz/a		B				
	HC MSO	16 oz/a		B				
	AMSOL	48 oz/a		B				
	Cheetah	32 oz/a		C				
	Dual Magnum	21.3 oz/a		C				
	AMSOL	48 oz/a		C				
5	Enlist One	16.8 oz/a		A	67 -	100 a	80 b	58 ab
	NIS	4.8 oz/a		A				
	Panther MTZ	15 oz/a		B				
	Credit Xtreme	32 oz/a		B				
	HC MSO	16 oz/a		B				
	AMSOL	48 oz/a		B				
	Cheetah	32 oz/a		C				
	Dual Magnum	21.3 oz/a		C				
	AMSOL	48 oz/a		C				
6	NFA-0020104	10.7 oz/a		A	47 -	92 a	99 ab	70 a
	NIS	4.8 oz/a		A				
	Panther Pro	15 oz/a		B				
	Credit Xtreme	32 oz/a		B				
	HC MSO	16 oz/a		B				
	AMSOL	48 oz/a		B				
	Cheetah	32 oz/a		C				
	Dual Magnum	21.3 oz/a		C				
	AMSOL	48 oz/a		C				
7	NFA-0020104	10.7 oz/a		A	55 -	78 a	100 a	48 ab
	NIS	4.8 oz/a		A				
	Authority Elite	25 oz/a		B				
	Credit Xtreme	32 oz/a		B				
	HC MSO	16 oz/a		B				
	AMSOL	48 oz/a		B				
	Cheetah	32 oz/a		C				
	Dual Magnum	21.3 oz/a		C				
	AMSOL	48 oz/a		C				



# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT Location: Western Branch F-9 W Trial Year: 2021  
 Protocol ID: H 2021 204 OH Investigator (Creator): Dr. Mark M. Loux  
 Project ID: Study Director:  
 Sponsor Contact:

Pest Type	W Weed	W Weed	W Weed	W Weed				
Pest Code	AMBTR	ERICA	CHEAL	AMARE				
Pest Scientific Name	Ambrosia trifida	Erigeron canadensis	Chenopodium album	Amaranthus retrofractus				
Pest Name	Giant ragweed	Hogweed	common lambsquarters	Redroot pigweed				
Crop Type, Code								
Crop Name								
Rating Date	Jul-12-2021	Jul-12-2021	Jul-12-2021	Jul-12-2021				
Part Rated								
Rating Type	CONTRO	CONTRO	CONTRO	CONTRO				
Rating Unit/Min/Max	% 0 100	% 0 100	% 0 100	% 0 100				
Number of Subsamples	1	1	1	1				
Data Entry Date	Jul-14-2021	Jul-14-2021	Jul-14-2021	Jul-14-2021				
Rating Timing								
Days After First/Last Applic.	87 31	87 31	87 31	87 31				
Trt-Eval Interval	31 DA-C	31 DA-C	31 DA-C	31 DA-C				
Plant-Eval Interval	59 DP-1	59 DP-1	59 DP-1	59 DP-1				
Days After Emergence	41 DE-1	41 DE-1	41 DE-1	41 DE-1				
Number of Decimals	0	0	0	0				
Trt No.	Treatment Name	Other Rate	Other Rate Unit Code	Appl Code	31*	32*	33* dAA	34*
8	Weedone LV4	16.7 oz/a		A	47 -	85 a	90 ab	47 ab
	NIS	4.8 oz/a		A				
	Fierce MTZ	16 oz/a		B				
	Credit Xtreme	32 oz/a		B				
	HC MSO	16 oz/a		B				
	AMSOL	48 oz/a		B				
	Cheetah	32 oz/a		C				
	Dual Magnum	21.3 oz/a		C				
	AMSOL	48 oz/a		C				
	LSD P=.05				19.4	14.9	9.3 - 20.4	17.9
	Standard Deviation				10.9	8.5	10.1t	10.1
	CV				20.8	10.37	16.26t	19.09
	Levene's F^				1.108	0.731	0.695	0.607
	Levene's Prob(F)				0.406	0.649	0.676	0.721
	Skewness^				0.0432	0.7251	0.2625	-0.0414
	Kurtosis^				0.5852	1.3437	0.6544	-0.0996
	Replicate F				0.672	1.215	0.925	0.140
	Replicate Prob(F)				0.5288	0.3262	0.4195	0.8705
	Treatment F				1.823	48.411	21.897	3.322
	Treatment Prob(F)				0.1771	0.0001	0.0001	0.0364

# The Ohio State University

## 2,4-D Burndown and Panther MTZ No-Till Soybean

Trial ID: 21PANTHERNT      Location: Western Branch F-9 W      Trial Year: 2021  
 Protocol ID: H 2021 204 OH      Investigator (Creator): Dr. Mark M. Loux  
 Project ID:      Study Director:  
                                  Sponsor Contact:

Pest Type

W, Weed = Weed or volunteer crop

Pest Code

STEME, Stellaria media, chickweed = US  
 LAMPU, Lamium purpureum, purple archangel = US  
 TAROF, Taraxacum officinale, dandelion = US  
 CARPE, Cardamine pensylvanica, Pennsylvania bittercress = US  
 RANAB, Ranunculus abortivus, Smallflower buttercup = US  
 VERAG, Veronica agrestis, Procrumbent speedwell = US  
 ERICA, Erigeron canadensis, Hogweed = US  
 SETFA, Setaria faberi, Giant foxtail = US  
 AMBTR, Ambrosia trifida, Giant ragweed = US  
 CHEAL, Chenopodium album, common lambsquarters = US  
 AMBEL, Ambrosia artemisiifolia, Common ragweed = US  
 TAROF, Taraxacum officinale, Blowball = US  
 AMARE, Amaranthus retroflexus, Redroot pigweed = US  
 ECHSS, Echinochloa sp., Barnyardgrass = US

Crop Type, Code

C = EPP0 species (Bayer) codes  
 GLXMA, BSOY, Glycine max, Soybean = US

Part Rated

PLANT = plant

Rating Type

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

Rating Unit/Min/Max

%, 0, 100 = percent

Plant-Eval Interval

-14 DP-1 = 1 GLXMA May-14-2021  
 0 DP-1 = 1 GLXMA May-14-2021  
 18 DP-1 = 1 GLXMA May-14-2021  
 28 DP-1 = 1 GLXMA May-14-2021  
 59 DP-1 = 1 GLXMA May-14-2021