

The Ohio State University

Bayers Xtend Program-North/Bareground/Postemergence/Marestail/Efficacy

Title No. 2: 2020-01-B7-09
 Trial ID: 20XTENDBG
 Protocol ID: HP20USANR1
 Project ID: LOCAL_PROJ

Location: Trial Year:
 Investigator: Dr. Mark M. Loux
 Study Director: Rana, Neha
 Sponsor Contact:

General Trial Information

Study Director: Rana, Neha
Investigator: Dr. Mark M. Loux

Trial Status: E established
ARM Trial Created On: Mar-26-2020
Initiation Date: Jun-4-2020

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 °: 39.86118 N
Longitude of LL Corner °: -83.68082 W
Altitude of LL Corner: 1090.00 FT

Conducted Under GLP: No
Conducted Under GEP: Yes

Keywords: EFFICACY

Objectives:

1. Evaluate the burndown efficacy of MON 301286 (previously MON 119151) and other burndown systems on Marestail present at the time of burndown applications in no-till system.
2. Evaluate XtendiMax (with various tank-mixtures) provides better control of maresatil at 0.5 lb ae/A compared to 0.75-0.95 lb ae/A of 2,4-D (and tank-mixes).
3. Does addition of Liberty to the tank help the system or antagonizes the weed control.

MON 301286 is a premix of MEA salt of dicamba and MEA salt of glyphosate. The reason for the update in MON # from MON 119151 to MON 301286 is due to a change in the manufacturing process that required to generate a new MON#.

Rate weed efficacy for individual species present at 14, 21, and 35 DAT.

Contacts

Study Director: Rana, Neha

Investigator: Dr. Mark M. Loux

Pest Description

Pest 1 Type: W **Code:** ERICA Erigeron canadensis
Common Name: Canada horseweed
Attributes: POEMWE

Site and Design

Treated Plot Width: 6.67 FT
Treated Plot Length: 30 FT
Treated Plot Area: 200.1 FT² **Treatments:** 12
Replications: 3

Site Type: FIELD field
Experimental Unit: 1 PLOT plot
Tillage Type: NOTILL no-till
Study Design: RACOB� Randomized Complete Block (RCB)

Previous

No. Crop Year
 1. PUMPKIN 2019

Comment: July 16, 2020 trial was terminated with rotary mower.

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Soil Description

Description Name: Western Branch C-7
% OM: 2.9 **Texture:** SIL silt loam
pH: 6.3 **Soil Name:** Crosby
CEC: 10.1 **Fert. Level:** L

Soil Drainage: G good

Application Description

	A
Application Date	Jun-4-2020
Appl. Start Time	10:00 AM
Appl. Stop Time	10:30 AM
Application Method	SPRAY
Application Timing	POSPOS
Application Placement	BROFOL
Applied By	Dobbels
Appl. Entry Date	Jun-12-2020
Air Temperature Start, Stop	69 70 F
% Relative Humidity Start, Stop	70 70
Wind Velocity+Dir. Start	3 MPH SW
Wind Velocity+Dir. Stop	3 MPH SW
Wind Velocity+Dir. Max	5 MPH SW
Wet Leaves (Y/N)	N no
Soil Temperature	68 F
Soil Moisture	DRY
Soil Surface Condition	DRY
% Cloud Cover	50
Next Moisture Occurred On	Jun-4-2020
Time to Next Moisture	1.2 HR
Moisture 6 Hours after Appl.	0.01 IN
Moisture 1 Week after Appl.	0.31 IN

Protocol Application Directions:

Experimental Field Trials must be clearly and continuously marked to avoid unauthorized entry or accidental harvest. Any harvestable portion of the crop treated with non-registered compounds or registered products experimentally tested off-label must be destroyed. Crop destruction date and method shall be reported to Bayer.

Objective:

Evaluate burndown weed efficacy of Xtend vs Enlist herbicide programs to control marestail on no-till ground.

Place study at a site where there is high marestail weed pressure.

Please make applications with a TTI nozzle set to deliver coarse droplets for ALL treatments in the study.

Agronomics and Trial Setup:

Bareground Trial. The treatments are to be applied to POST emerge to weeds (8 to 12 inches tall marestail).

APPLICATION:

A= POSPOS= apply post emergence to weeds

TREATMENTS:

Please evaluate all treatments in the protocol. All treatments are core, except treatment 12 (OPTIONAL). **Please DO NOT alter rates or change treatment order of the core set of treatments (1-11).** If you decide to add any local treatments they must be added at the end of protocol.

CROP DESTRUCT REQUIREMENTS:

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This a bareground trial. No Crop is planted.

Trial must be conducted in accordance with “10 Acre Rule” regulations; USC-OPS-007
 NONREGISTERED CROP PROTECTION PRODUCT (CPP) FIELD TRIAL REQUIREMENTS FOR
 THE U.S.

ASSESSMENT:

Photos would be appreciated throughout the season

Weed Control - EE22AD3 - percent weed control on 0-100% scale. Please rate % weed control for each individual species. Record percent ground cover of each weed in UTC.

Target evaluations (WC):

- 14 days after "A" (A3- range 11-18 days)
- 21 days after "A" (A4- range 19-25 days)
- 35 days after "A" (A5-range 26-44 days)

Reporting Dates:

Final reports due: **September 15, 2020**

Sample Orders:

All herbicides for this protocol should be ordered by the crop protection TDR for internal and external locations that have been assigned in SCOUT.

Pest Stage At Each Application

	A	
Pest 1 Code, Type, Scale	ERICA	W
Stage Majority, Percent	19	100
Diameter	3	IN
Height Average	11	IN
Height Minimum, Maximum	3	13
Density Average	8	PLA/M2
Density Min, Max	3	12

Application Equipment

	A	
Appl. Equipment	10'	TTI
Equipment Type	BACCAI	
Operation Pressure	44	PSI
Nozzle Type	TTI	
Nozzle Size	110015	
Nozzle Spacing	18	IN
Boom Length	10	FT
Boom Height	20	IN
Ground Speed	3	KPH
Carrier	WATER	
Application Amount	15	GAL/AC
Mix Size	3	GAL
Propellant	COMCO2	
Tank Mix (Y/N)	Y	yes

Context	Date	By	Notes
STATUS	Mar-26-2020	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'S' during trial creation.
STATUS	Jun-12-2020	Dr. Mark M. Loux	Automatically added by ARM: Trial Status updated to 'E' when Initiation Date entered.
STATUS	Jul-16-2020	Dobbels	Trial termination and destruction of plot area with rotary mower. No crop.

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SE Definitions

	1.	2.	3.
Rating Timing	A3	A4	A5
SE Name	EE22AD3	EE22AD3	EE22AD3
SE Description	1 weed, % efficacy, in untreated %	1 weed, % efficacy, in untreated %	1 weed, % efficacy, in untreated %
	coverage	coverage	coverage

Pest Type	W Weed	W Weed
Pest Code	ERICA	ERICA
Pest Scientific Name	Erigeron canad>	Erigeron canad>
Pest Name	Canada horsewe>	Canada horsewe>
Rating Date	Jun-18-2020	Jun-25-2020
Rating Type	CONTRO	CONTRO
Rating Unit	%	%
Number of Subsamples	1	1
Data Entry Date	Jun-22-2020	Jun-26-2020
Days After First/Last Applic.	14 14	21 21
Trt-Eval Interval	14 DA-A	21 DA-A
Number of Decimals	0	0

Trt Treatment No. Name	Rate Rate	Unit	Other Rate	Other Rate	Appl Unit Code	1*	2*
1 UNTREATED					A	0 e	0 h
2 MON 301286	1680 g ai/ha		48 oz/a		A	67 c	67 ef
2 MON 51817	1 % v/v		1 % v/v		A		
2 INTACT DRIFT CONTROL & FOLIAR AGENT (DFR)	0.5 % v/v		0.5 % v/v		A		
2 CLASS ACT RIDION	1 % v/v		1 % v/v		A		
3 MON 301286	1680 g ai/ha		48 oz/a		A	65 c	62 fg
3 MON 51817	1 % v/v		1 % v/v		A		
3 CLASS ACT RIDION	1 % v/v		1 % v/v		A		
4 MON 301286	1680 g ai/ha		48 oz/a		A	73 bc	77 cd
4 XTENDIMAX VAPORGRIP	562.6 g ai/ha		22 oz/a		A		
4 MON 51817	1 % v/v		1 % v/v		A		
4 INTACT DRIFT CONTROL & FOLIAR AGENT (DFR)	0.5 % v/v		0.5 % v/v		A		
4 CLASS ACT RIDION	1 % v/v		1 % v/v		A		
5 XTENDIMAX VAPORGRIP	562.6 g ai/ha		22 oz/a		A	73 bc	74 de
5 ROUNDUP POWER MAX	1543 g ai/ha		32 oz/a		A		
5 MON 51817	1 % v/v		1 % v/v		A		
5 INTACT DRIFT CONTROL & FOLIAR AGENT (DFR)	0.5 % v/v		0.5 % v/v		A		
5 CLASS ACT RIDION	1 % v/v		1 % v/v		A		
6 XTENDIMAX VAPORGRIP	1125 g ai/ha		44 oz/a		A	73 bc	77 cd
6 ROUNDUP POWER MAX	1543 g ai/ha		32 oz/a		A		
6 MON 51817	1 % v/v		1 % v/v		A		
6 INTACT DRIFT CONTROL & FOLIAR AGENT (DFR)	0.5 % v/v		0.5 % v/v		A		
6 CLASS ACT RIDION	1 % v/v		1 % v/v		A		
7 ENLIST ONE	798 g ai/ha		24 oz/a		A	67 c	63 f
7 ROUNDUP POWER MAX	1543 g ai/ha		32 oz/a		A		
7 N-PAK AMS LIQUID	2.5 % v/v		2.5 % v/v		A		
8 ENLIST ONE	1064 g ai/ha		32 oz/a		A	53 d	53 g
8 ROUNDUP POWER MAX	1543 g ai/ha		32 oz/a		A		
8 N-PAK AMS LIQUID	2.5 % v/v		2.5 % v/v		A		
9 ENLIST ONE	1064 g ai/ha		32 oz/a		A	88 a	83 bc
9 LIBERTY 280 SL	655 g ai/ha		32 oz/a		A		
9 N-PAK AMS LIQUID	2.5 % v/v		2.5 % v/v		A		

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Pest Type	W Weed	W Weed
Pest Code	ERICA	ERICA
Pest Scientific Name	Erigeron canad>	Erigeron canad>
Pest Name	Canada horsewe>	Canada horsewe>
Rating Date	Jun-18-2020	Jun-25-2020
Rating Type	CONTRO	CONTRO
Rating Unit	%	%
Number of Subsamples	1	1
Data Entry Date	Jun-22-2020	Jun-26-2020
Days After First/Last Applic.	14 14	21 21
Trt-Eval Interval	14 DA-A	21 DA-A
Number of Decimals	0	0

Trt Treatment No. Name	Rate Rate Unit	Other Rate Rate Unit	Other Rate Rate Unit	Appl Unit Code	1*	2*
10 SHARPEN 342 SC	25 g ai/ha	1 oz/a		A	88 a	98 a
10 WEEDAR 64	1066 g ai/ha	32 oz/a		A		
10 XTENDIMAX VAPORGRIP	281.3 g ai/ha	11 oz/a		A		
10 ROUNDUP POWER MAX	1543 g ai/ha	32 oz/a		A		
10 CLASS ACT RIDION	1 % v/v	1 % v/v		A		
11 XTENDIMAX VAPORGRIP	562.6 g ai/ha	22 oz/a		A	87 a	90 ab
11 LIBERTY 280 SL	655 g ai/ha	32 oz/a		A		
11 MON 51817	1 % v/v	1 % v/v		A		
11 INTACT DRIFT CONTROL & FOLIAR AGENT (DFR)	0.5 % v/v	0.5 % v/v		A		
11 CLASS ACT RIDION	1 % v/v	1 % v/v		A		
12 GRAMOXONE 200 SL	701.5 g ai/ha	48 oz/a		A	82 ab	80 cd
12 MAULER	280.6 g ai/ha	8 oz/a		A		
12 COC	1 % v/v	1 % v/v		A		
LSD P=.05					8.4	8.8
Standard Deviation					5.0	5.2
CV					7.28	7.57
Grand Mean					68.1	68.6
Levene's F					0.327	0.452
Levene's Prob(F)					0.971	0.915
Rank X2					.	.
P(Rank X2)					.	.
Skewness					-2.0097*	-1.7368*
Kurtosis					4.0127*	3.2147*
Replicate F					0.537	2.734
Replicate Prob(F)					0.5918	0.0870
Treatment F					69.954	68.972
Treatment Prob(F)					0.0001	0.0001

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 Sponsor Contact:

Pest Type	W Weed
Pest Code	ERICA
Pest Scientific Name	Conyza canadensis
Pest Name	horseweed
Rating Date	Jul-9-2020
Rating Type	CONTRO
Rating Unit	%
Number of Subsamples	1
Data Entry Date	Jul-9-2020
Days After First/Last Applic.	35 35
Trt-Eval Interval	35 DA-A
Number of Decimals	0

Trt No.	Treatment Name	Rate	Unit	Other Rate	Other Unit	Appl Unit Code	3*
1	UNTREATED					A	0 f
2	MON 301286	1680 g ai/ha		48 oz/a		A	83 c
2	MON 51817	1 % v/v		1 % v/v		A	
2	INTACT DRIFT CONTROL & FOLIAR AGENT (DFR)	0.5 % v/v		0.5 % v/v		A	
2	CLASS ACT RIDION	1 % v/v		1 % v/v		A	
3	MON 301286	1680 g ai/ha		48 oz/a		A	85 bc
3	MON 51817	1 % v/v		1 % v/v		A	
3	CLASS ACT RIDION	1 % v/v		1 % v/v		A	
4	MON 301286	1680 g ai/ha		48 oz/a		A	98 a
4	XTENDIMAX VAPORGRIP	562.6 g ai/ha		22 oz/a		A	
4	MON 51817	1 % v/v		1 % v/v		A	
4	INTACT DRIFT CONTROL & FOLIAR AGENT (DFR)	0.5 % v/v		0.5 % v/v		A	
4	CLASS ACT RIDION	1 % v/v		1 % v/v		A	
5	XTENDIMAX VAPORGRIP	562.6 g ai/ha		22 oz/a		A	94 a
5	ROUNDUP POWER MAX	1543 g ai/ha		32 oz/a		A	
5	MON 51817	1 % v/v		1 % v/v		A	
5	INTACT DRIFT CONTROL & FOLIAR AGENT (DFR)	0.5 % v/v		0.5 % v/v		A	
5	CLASS ACT RIDION	1 % v/v		1 % v/v		A	
6	XTENDIMAX VAPORGRIP	1125 g ai/ha		44 oz/a		A	98 a
6	ROUNDUP POWER MAX	1543 g ai/ha		32 oz/a		A	
6	MON 51817	1 % v/v		1 % v/v		A	
6	INTACT DRIFT CONTROL & FOLIAR AGENT (DFR)	0.5 % v/v		0.5 % v/v		A	
6	CLASS ACT RIDION	1 % v/v		1 % v/v		A	
7	ENLIST ONE	798 g ai/ha		24 oz/a		A	72 de
7	ROUNDUP POWER MAX	1543 g ai/ha		32 oz/a		A	
7	N-PAK AMS LIQUID	2.5 % v/v		2.5 % v/v		A	
8	ENLIST ONE	1064 g ai/ha		32 oz/a		A	65 e
8	ROUNDUP POWER MAX	1543 g ai/ha		32 oz/a		A	
8	N-PAK AMS LIQUID	2.5 % v/v		2.5 % v/v		A	
9	ENLIST ONE	1064 g ai/ha		32 oz/a		A	80 cd
9	LIBERTY 280 SL	655 g ai/ha		32 oz/a		A	
9	N-PAK AMS LIQUID	2.5 % v/v		2.5 % v/v		A	

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Pest Type	W Weed
Pest Code	ERICA
Pest Scientific Name	Conyza canadens>
Pest Name	horseweed
Rating Date	Jul-9-2020
Rating Type	CONTRO
Rating Unit	%
Number of Subsamples	1
Data Entry Date	Jul-9-2020
Days After First/Last Applic.	35 35
Trt-Eval Interval	35 DA-A
Number of Decimals	0

Trt Treatment No. Name	Rate Rate Unit	Other Rate Rate Unit	Other Rate Rate Unit	Appl Code	3*
10 SHARPEN 342 SC	25 g ai/ha	1 oz/a		A	93 ab
10 WEEDAR 64	1066 g ai/ha	32 oz/a		A	
10 XTENDIMAX VAPORGRIP	281.3 g ai/ha	11 oz/a		A	
10 ROUNDUP POWER MAX	1543 g ai/ha	32 oz/a		A	
10 CLASS ACT RIDION	1 % v/v	1 % v/v		A	
11 XTENDIMAX VAPORGRIP	562.6 g ai/ha	22 oz/a		A	80 cd
11 LIBERTY 280 SL	655 g ai/ha	32 oz/a		A	
11 MON 51817	1 % v/v	1 % v/v		A	
11 INTACT DRIFT CONTROL & FOLIAR AGENT (DFR)	0.5 % v/v	0.5 % v/v		A	
11 CLASS ACT RIDION	1 % v/v	1 % v/v		A	
12 GRAMOXONE 200 SL	701.5 g ai/ha	48 oz/a		A	72 de
12 MAULER	280.6 g ai/ha	8 oz/a		A	
12 COC	1 % v/v	1 % v/v		A	
LSD P=.05					9.2
Standard Deviation					5.4
CV					7.11
Grand Mean					76.6
Levene's F					0.707
Levene's Prob(F)					0.72
Rank X2					.
P(Rank X2)					.
Skewness					-2.1367*
Kurtosis					4.468*
Replicate F					2.900
Replicate Prob(F)					0.0762
Treatment F					70.534
Treatment Prob(F)					0.0001

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Study Director: Rana, Neha

Sponsor Contact:

Pest Type

W, Weed = Weed or volunteer crop

Pest Code

ERICA, Erigeron canadensis, Canada horseweed = US

ERICA, Conyza canadensis, horseweed = US

Rating Type

CONTRO = control / burndown or knockdown

Rating Unit

% = percent