

Perpetuo and Fierce product use in Roundup Ready 2 Xtend soybean

Trial ID: SOY10-20 Study Dir.: Sprague, Powell, Stiles
 Conducted: Campus, T-12 Investigator: Christy Sprague

Planting Date: May-23-2020 **Row Spacing:** 30 IN
Variety: AG26X8 **No. of Reps:** 4
Population: 156000 seeds/A **% OM:** 3.7
Soil Type: CL clay loam **pH:** 6.3
Plot Size: 10 X 35 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: Fall chisel plow, fall soil finish; Spring soil finish (2X)

Fertilizer:

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1	ANGR	mainly foxtail species	Annual grass
2	CHEAL	common lambsquarters	Chenopodium album
3	AMAPO	Powell amaranth	Amaranthus powellii
4	AMBEL	common ragweed	Ambrosia artemisiifolia
5	SINAR	wild mustard	Sinapis arvensis
Crop	Code	Common Name	
1	GLXMA	Soybean	

Application Description

	A	B
Application Timing:	PRE	POST
Date Treated:	May-23-2020	Jun-22-2020
Time Treated:	3:00 AM	2:05 AM
% Cloud Cover:	75	60
Air Temp., Unit:	75 F	73 F
% Relative Humidity:	72	44
Wind Speed/Unit/Dir:	6.5 mph SE	5 mph W
Soil Temp, Unit:	66 F	90 F
Leaf Moist/Dew Presence (Y/N):	4	5
Soil Moist:	5	5

Crop Stage at Each Application

	A	B
Crop 1 Name:	GLXMA	GLXMA
Height:		8 "
Stage:		V4

Weed Stage at Each Application

	A	B
Weed 1 Name:	ANGR	ANGR
Height:		10-12 " (11)
Stage:		5-6L
Weed 2 Name:	CHEAL	CHEAL
Height:		2-3 " (2.5)
Stage:		8L
Weed 3 Name:	AMAPO	AMAPO
Height:		1-3 " (2)
Stage:		6-10L
Weed 4 Name:	AMBEL	AMBEL
Height:		3-7 " (5)
Stage:		10-12L
Weed 5 Name:	SINAR	SINAR
Height:		4 "
Stage:		4L

Weed Density

	1	2	3	4	5
Date:	Jun-22-2020	Jun-22-2020	Jun-22-2020	Jun-22-2020	Jun-22-2020
Weed Name:	ANGR	CHEAL	AMAPO	AMBEL	SINAR
Density:	29 FT2	1 FT2	1 FT2	5 FT2	1 FT2

Application Equipment

Appl	Sprayer Type	Ground Speed	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	Spray Volume	Carrier	Operation Pressure
A	CUB	3.8 mph	AIXR	11003	22 "	20 "	100 "	19 GPA	WATER	30 psi
B	CUB	3.8 mph	TTI	11003	27 "	20 "	100 "	19 GPA	WATER	27 psi

Comments: The common ragweed (AMBEL) population in this trial is resistant to the Group 2 (ALS-inhibiting) herbicides.

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 Project ID: Study Director: Sprague, Powell, Stiles
 Sponsor Contact:

Pest Code	ANGR	CHEAL	AMAPO	AMBEL	SINAR
Crop Type, Code	C GLXMA				
Rating Date	Jun-15-2020	Jun-15-2020	Jun-15-2020	Jun-15-2020	Jun-15-2020
Rating Type	injury	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Trt-Eval Interval	23 DA-A	23 DA-A	23 DA-A	23 DA-A	23 DA-A
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Timing	Appl Code	ANGR	CHEAL	AMAPO	AMBEL	SINAR
1	XtendiMax	2.9 SL		32 fl oz/a		POST	B	0	0	0	0	0
	Roundup PowerMax	4.5 SL		32 fl oz/a		POST	B					
	Induce	L		0.25 % v/v		POST	B					
	Intact	L		0.5 % v/v		POST	B					
2	Perpetuo	2.3 L		6 fl oz/a		POST	B	0	0	0	0	0
	XtendiMax	2.9 SL		32 fl oz/a		POST	B					
	Roundup PowerMax	4.5 SL		32 fl oz/a		POST	B					
	Induce	L		0.25 % v/v		POST	B					
	Intact	L		0.5 % v/v		POST	B					
3	Untreated							0	0	0	0	0
4	Fierce EZ	3.04 L		6 fl oz/a		PRE	A	12	78	100	100	89
	XtendiMax	2.9 SL		32 fl oz/a		POST	B					
	Roundup PowerMax	4.5 SL		32 fl oz/a		POST	B					
	Induce	L		0.25 % v/v		POST	B					
	Intact	L		0.5 % v/v		POST	B					
5	Fierce MTZ	2.64 L		1 pt/a		PRE	A	19	82	100	100	100
	XtendiMax	2.9 SL		32 fl oz/a		POST	B					
	Roundup PowerMax	4.5 SL		32 fl oz/a		POST	B					
	Induce	L		0.25 % v/v		POST	B					
	Intact	L		0.5 % v/v		POST	B					
6	Fierce EZ	3.04 L		6 fl oz/a		PRE	A	12	76	100	100	98
	Perpetuo	2.3 L		6 fl oz/a		POST	B					
	XtendiMax	2.9 SL		32 fl oz/a		POST	B					
	Roundup PowerMax	4.5 SL		32 fl oz/a		POST	B					
	Induce	L		0.25 % v/v		POST	B					
	Intact	L		0.5 % v/v		POST	B					
7	Fierce MTZ	2.64 L		1 pt/a		PRE	A	19	78	92	100	95
	Perpetuo	2.3 L		6 fl oz/a		POST	B					
	XtendiMax	2.9 SL		32 fl oz/a		POST	B					
	Roundup PowerMax	4.5 SL		32 fl oz/a		POST	B					
	Induce	L		0.25 % v/v		POST	B					
	Intact	L		0.5 % v/v		POST	B					
8	Zidua PRO	4.09 L		6 fl oz/a		PRE	A	0	76	98	100	79
	Perpetuo	2.3 L		6 fl oz/a		POST	B					
	XtendiMax	2.9 SL		32 fl oz/a		POST	B					
	Roundup PowerMax	4.5 SL		32 fl oz/a		POST	B					
	Induce	L		0.25 % v/v		POST	B					
	Intact	L		0.5 % v/v		POST	B					
9	Authority MTZ	45 WG		14 oz/a		PRE	A	0	63	95	100	69
	Anthem Maxx	4.3 L		2.5 fl oz/a		POST	B					
	XtendiMax	2.9 SL		32 fl oz/a		POST	B					
	Roundup PowerMax	4.5 SL		32 fl oz/a		POST	B					
	Induce	L		0.25 % v/v		POST	B					
	Intact	L		0.5 % v/v		POST	B					
	LSD P=.05							7.2	6.3	6.5	.	6.6
	Standard Deviation							4.9	4.3	4.5	0.0	4.6
	CV							71.5	8.61	6.86	0.0	7.74

Could not calculate LSD (% mean diff) for columns 4,16,21,24 because error mean square = 0.

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Trial Year: 2020

Protocol ID: SOY10-20

Investigator (Creator): Christy Sprague

Project ID:

Study Director: Sprague, Powell, Stiles

Sponsor Contact:

Pest Code	ANGR	CHEAL	AMAPO	AMBEL	SINAR
Crop Type, Code	C GLXMA				
Rating Date	Jun-22-2020	Jun-22-2020	Jun-22-2020	Jun-22-2020	Jun-22-2020
Rating Type	injury	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Trt-Eval Interval	30 DA-A	30 DA-A	30 DA-A	30 DA-A	30 DA-A
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate Unit	Appl Timing	Appl Code					
1	XtendiMax	2.9	SL	32 fl oz/a	POST	B	0	0	0	0	0
	Roundup PowerMax	4.5	SL	32 fl oz/a	POST	B					
	Induce	L		0.25 % v/v	POST	B					
	Intact	L		0.5 % v/v	POST	B					
2	Perpetuo	2.3	L	6 fl oz/a	POST	B	0	0	0	0	0
	XtendiMax	2.9	SL	32 fl oz/a	POST	B					
	Roundup PowerMax	4.5	SL	32 fl oz/a	POST	B					
	Induce	L		0.25 % v/v	POST	B					
	Intact	L		0.5 % v/v	POST	B					
3	Untreated						0	0	0	0	0
4	Fierce EZ	3.04	L	6 fl oz/a	PRE	A	14	78	92	100	85
	XtendiMax	2.9	SL	32 fl oz/a	POST	B					
	Roundup PowerMax	4.5	SL	32 fl oz/a	POST	B					
	Induce	L		0.25 % v/v	POST	B					
	Intact	L		0.5 % v/v	POST	B					
5	Fierce MTZ	2.64	L	1 pt/a	PRE	A	18	79	95	100	92
	XtendiMax	2.9	SL	32 fl oz/a	POST	B					
	Roundup PowerMax	4.5	SL	32 fl oz/a	POST	B					
	Induce	L		0.25 % v/v	POST	B					
	Intact	L		0.5 % v/v	POST	B					
6	Fierce EZ	3.04	L	6 fl oz/a	PRE	A	13	75	94	100	93
	Perpetuo	2.3	L	6 fl oz/a	POST	B					
	XtendiMax	2.9	SL	32 fl oz/a	POST	B					
	Roundup PowerMax	4.5	SL	32 fl oz/a	POST	B					
	Induce	L		0.25 % v/v	POST	B					
	Intact	L		0.5 % v/v	POST	B					
7	Fierce MTZ	2.64	L	1 pt/a	PRE	A	13	75	89	100	92
	Perpetuo	2.3	L	6 fl oz/a	POST	B					
	XtendiMax	2.9	SL	32 fl oz/a	POST	B					
	Roundup PowerMax	4.5	SL	32 fl oz/a	POST	B					
	Induce	L		0.25 % v/v	POST	B					
	Intact	L		0.5 % v/v	POST	B					
8	Zidua PRO	4.09	L	6 fl oz/a	PRE	A	6	77	91	100	71
	Perpetuo	2.3	L	6 fl oz/a	POST	B					
	XtendiMax	2.9	SL	32 fl oz/a	POST	B					
	Roundup PowerMax	4.5	SL	32 fl oz/a	POST	B					
	Induce	L		0.25 % v/v	POST	B					
	Intact	L		0.5 % v/v	POST	B					
9	Authority MTZ	45	WG	14 oz/a	PRE	A	0	38	94	98	57
	Anthem Maxx	4.3	L	2.5 fl oz/a	POST	B					
	XtendiMax	2.9	SL	32 fl oz/a	POST	B					
	Roundup PowerMax	4.5	SL	32 fl oz/a	POST	B					
	Induce	L		0.25 % v/v	POST	B					
	Intact	L		0.5 % v/v	POST	B					
	LSD P=.05						4.2	9.3	9.5	1.4	8.1
	Standard Deviation						2.9	6.3	6.5	1.0	5.5
	CV						40.8	13.62	10.61	1.45	10.15

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 Sponsor Contact:

Pest Code	ANGR	CHEAL	AMAPO	AMBEL	SINAR	C	GLXMA
Crop Type, Code	Jul-7-2020	Jul-7-2020	Jul-7-2020	Jul-7-2020	Jul-7-2020	Jul-20-2020	
Rating Date	injury	control	control	control	control	control	injury
Rating Type	percent	percent	percent	percent	percent	percent	percent
Rating Unit	15 DA-B	15 DA-B	15 DA-B	15 DA-B	15 DA-B	15 DA-B	28 DA-B
Trt-Eval Interval	0	0	0	0	0	0	0
Number of Decimals							

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Timing	Appl Code							
1	XtendiMax	2.9	SL	32 fl oz/a		POST	B	2	93	100	100	100	98	0
	Roundup PowerMax	4.5	SL	32 fl oz/a		POST	B							
	Induce	L		0.25 % v/v		POST	B							
	Intact	L		0.5 % v/v		POST	B							
2	Perpetuo	2.3	L	6 fl oz/a		POST	B	7	93	99	100	94	100	4
	XtendiMax	2.9	SL	32 fl oz/a		POST	B							
	Roundup PowerMax	4.5	SL	32 fl oz/a		POST	B							
	Induce	L		0.25 % v/v		POST	B							
	Intact	L		0.5 % v/v		POST	B							
3	Untreated							0	0	0	0	0	0	0
4	Fierce EZ	3.04	L	6 fl oz/a		PRE	A	2	98	100	100	99	100	0
	XtendiMax	2.9	SL	32 fl oz/a		POST	B							
	Roundup PowerMax	4.5	SL	32 fl oz/a		POST	B							
	Induce	L		0.25 % v/v		POST	B							
	Intact	L		0.5 % v/v		POST	B							
5	Fierce MTZ	2.64	L	1 pt/a		PRE	A	6	98	100	100	100	100	2
	XtendiMax	2.9	SL	32 fl oz/a		POST	B							
	Roundup PowerMax	4.5	SL	32 fl oz/a		POST	B							
	Induce	L		0.25 % v/v		POST	B							
	Intact	L		0.5 % v/v		POST	B							
6	Fierce EZ	3.04	L	6 fl oz/a		PRE	A	6	99	100	100	100	100	2
	Perpetuo	2.3	L	6 fl oz/a		POST	B							
	XtendiMax	2.9	SL	32 fl oz/a		POST	B							
	Roundup PowerMax	4.5	SL	32 fl oz/a		POST	B							
	Induce	L		0.25 % v/v		POST	B							
	Intact	L		0.5 % v/v		POST	B							
7	Fierce MTZ	2.64	L	1 pt/a		PRE	A	11	96	100	100	93	100	2
	Perpetuo	2.3	L	6 fl oz/a		POST	B							
	XtendiMax	2.9	SL	32 fl oz/a		POST	B							
	Roundup PowerMax	4.5	SL	32 fl oz/a		POST	B							
	Induce	L		0.25 % v/v		POST	B							
	Intact	L		0.5 % v/v		POST	B							
8	Zidua PRO	4.09	L	6 fl oz/a		PRE	A	5	99	100	100	90	100	0
	Perpetuo	2.3	L	6 fl oz/a		POST	B							
	XtendiMax	2.9	SL	32 fl oz/a		POST	B							
	Roundup PowerMax	4.5	SL	32 fl oz/a		POST	B							
	Induce	L		0.25 % v/v		POST	B							
	Intact	L		0.5 % v/v		POST	B							
9	Authority MTZ	45	WG	14 oz/a		PRE	A	6	96	100	100	95	100	1
	Anthem Maxx	4.3	L	2.5 fl oz/a		POST	B							
	XtendiMax	2.9	SL	32 fl oz/a		POST	B							
	Roundup PowerMax	4.5	SL	32 fl oz/a		POST	B							
	Induce	L		0.25 % v/v		POST	B							
	Intact	L		0.5 % v/v		POST	B							
	LSD P=.05							3.7	4.3	1.2	.	5.3	2.4	2.3
	Standard Deviation							2.6	2.9	0.8	0.0	3.6	1.7	1.6
	CV							51.67	3.43	0.94	0.0	4.23	1.88	133.66

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Project ID:

Study Director: Sprague, Powell, Stiles

Sponsor Contact:

Pest Code	ANGR	CHEAL	AMAPO	AMBEL	SINAR
Crop Type, Code					
Rating Date	Jul-20-2020	Jul-20-2020	Jul-20-2020	Jul-20-2020	Jul-20-2020
Rating Type	control	control	control	control	control
Rating Unit	percent	percent	percent	percent	percent
Trt-Eval Interval	28 DA-B	28 DA-B	28 DA-B	28 DA-B	28 DA-B
Number of Decimals	0	0	0	0	0

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Appl Timing	Appl Code					
1	XtendiMax	2.9	SL	32 fl oz/a		POST	B	81	100	100	100	100
	Roundup PowerMax	4.5	SL	32 fl oz/a		POST	B					
	Induce	L		0.25 % v/v		POST	B					
	Intact	L		0.5 % v/v		POST	B					
2	Perpetuo	2.3	L	6 fl oz/a		POST	B	88	100	97	99	100
	XtendiMax	2.9	SL	32 fl oz/a		POST	B					
	Roundup PowerMax	4.5	SL	32 fl oz/a		POST	B					
	Induce	L		0.25 % v/v		POST	B					
	Intact	L		0.5 % v/v		POST	B					
3	Untreated							0	0	0	0	0
4	Fierce EZ	3.04	L	6 fl oz/a		PRE	A	99	100	100	100	100
	XtendiMax	2.9	SL	32 fl oz/a		POST	B					
	Roundup PowerMax	4.5	SL	32 fl oz/a		POST	B					
	Induce	L		0.25 % v/v		POST	B					
	Intact	L		0.5 % v/v		POST	B					
5	Fierce MTZ	2.64	L	1 pt/a		PRE	A	98	100	100	100	100
	XtendiMax	2.9	SL	32 fl oz/a		POST	B					
	Roundup PowerMax	4.5	SL	32 fl oz/a		POST	B					
	Induce	L		0.25 % v/v		POST	B					
	Intact	L		0.5 % v/v		POST	B					
6	Fierce EZ	3.04	L	6 fl oz/a		PRE	A	98	100	100	100	100
	Perpetuo	2.3	L	6 fl oz/a		POST	B					
	XtendiMax	2.9	SL	32 fl oz/a		POST	B					
	Roundup PowerMax	4.5	SL	32 fl oz/a		POST	B					
	Induce	L		0.25 % v/v		POST	B					
	Intact	L		0.5 % v/v		POST	B					
7	Fierce MTZ	2.64	L	1 pt/a		PRE	A	96	100	100	100	100
	Perpetuo	2.3	L	6 fl oz/a		POST	B					
	XtendiMax	2.9	SL	32 fl oz/a		POST	B					
	Roundup PowerMax	4.5	SL	32 fl oz/a		POST	B					
	Induce	L		0.25 % v/v		POST	B					
	Intact	L		0.5 % v/v		POST	B					
8	Zidua PRO	4.09	L	6 fl oz/a		PRE	A	98	100	100	100	100
	Perpetuo	2.3	L	6 fl oz/a		POST	B					
	XtendiMax	2.9	SL	32 fl oz/a		POST	B					
	Roundup PowerMax	4.5	SL	32 fl oz/a		POST	B					
	Induce	L		0.25 % v/v		POST	B					
	Intact	L		0.5 % v/v		POST	B					
9	Authority MTZ	45	WG	14 oz/a		PRE	A	95	100	99	100	100
	Anthem Maxx	4.3	L	2.5 fl oz/a		POST	B					
	XtendiMax	2.9	SL	32 fl oz/a		POST	B					
	Roundup PowerMax	4.5	SL	32 fl oz/a		POST	B					
	Induce	L		0.25 % v/v		POST	B					
	Intact	L		0.5 % v/v		POST	B					
	LSD P=.05							5.3	.	3.0	0.6	.
	Standard Deviation							3.6	0.0	2.0	0.4	0.0
	CV							4.32	0.0	2.3	0.5	0.0

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