Purdue Weed Science

Warrant/Xtend Soybean/POST Safety/Grass & Broadleaf/Phyto & Efficacy

Trial ID: 20S-TPAC-SOY-15

Protocol Developer: Riley, Eric
License User: Childs, Dan

General Trial Information

Trial Initiation Date: 5/2/2020 **Protocol Edition No.:** 1.04
Trial Status: A **Trial Status Date:** 9/4/2020
Last change done by: Dr. Bill Johnson **Date of last export:** 9/4/2020 8:13 AM
Trial Objectives fulfilled: FULLY
GEP level: Conducted under GEP
External Trial: X

	1
TD Number(s):	LOCALCREATED

	1	2
Objectives:	PHYTOTOX	EFFICACY

License User: Childs, Dan
Department: Bayer CropScience LP

Protocol Developer: Riley, Eric

Trial Officer: Childs, Dan

Cooperator (Outside service): Cooperator
Affiliation: Affilation
Street: Street
City: City
Postal Code: PostalCode
Telephone: Telephon
Fax: Fax
Mobile Tel.: Mobile Telephone
E-Mail: E-Mail

Site and Design

Field Name: TPAC - Throckmorton Purdue Agricultural Center
City: Lafayette
Postal Code: 47909
County: Tippecanoe
State/Province: IN
Country: USA

Latitude, Longitude of Trial Corners

Lower Left
Latitude: 40.2962205
Longitude: -86.9077506

No. of Replicates: 4 **No. of Treatments:** 10 **No. of Plots:** 40
Plot Width: 3.048 m **Plot Length:** 9.14 m
Plot Area: 27.87 m2
Site Type: FIELD **Test Type:** EXTER
Tillage Type: CONTIL **Trial Design:** RACOBL
Most relevant weather station: Throckmorton Purdue Agricultural Center
Distance: 0.75 KM
Location of Control: INCLUDED

Previous Crops and Agricultural Chemicals

Previous Crops			Year
GLXMA	C	BSOY	2019

Soil Description

Soil Name: Octagon Silt Loam
Texture: SIL **% Sand:** 19 **% Silt:** 54
% Clay: 27
% Organic Matter: 4.1
pH: 7.3 **Cation Exchange Capacity:** 13.4

Irrigation/Rainfall

Date	Amount	Unit	Type and Equipment
5/2/2020	0.025	CM	RAIN
5/3/2020	0.585	CM	RAIN
5/5/2020	0.481	CM	RAIN
5/6/2020	0.025	CM	RAIN
5/10/2020	0.101	CM	RAIN
5/14/2020	0.405	CM	RAIN
5/15/2020	0.279	CM	RAIN
5/17/2020	1.497	CM	RAIN
5/18/2020	0.914	CM	RAIN
5/19/2020	0.684	CM	RAIN
5/23/2020	0.178	CM	RAIN
5/27/2020	0.025	CM	RAIN
5/28/2020	0.331	CM	RAIN
6/4/2020	0.33	CM	RAIN
6/9/2020	0.787	CM	RAIN
6/20/2020	0.025	CM	RAIN
6/21/2020	0.075	CM	RAIN
6/22/2020	0.711	CM	RAIN
6/23/2020	0.203	CM	RAIN
6/27/2020	2.769	CM	RAIN
6/28/2020	0.229	CM	RAIN
6/29/2020	0.076	CM	RAIN
6/30/2020	1.829	CM	RAIN
7/10/2020	0.05	CM	RAIN
7/11/2020	0.914	CM	RAIN
7/12/2020	0.66	CM	RAIN
7/15/2020	0.127	CM	RAIN
7/16/2020	0.456	CM	RAIN
7/19/2020	0.051	CM	RAIN
7/21/2020	1.423	CM	RAIN
7/22/2020	0.329	CM	RAIN
7/23/2020	0.178	CM	RAIN
7/27/2020	1.295	CM	RAIN
7/30/2020	1.599	CM	RAIN

Plant Development at Appl. and/or Ass.

Date From	To	Crop			BBCH From	To	Plant Development	Soil Humidity	Cloud Cover	Temperature
5/4/2020	5/4/2020	GLXMA	C	BSOY	00	00	NORMAL	SLIWET	MEDIUM	COLD
6/12/2020	6/12/2020	GLXMA	C	BSOY	13	15	NORMAL	DAMP	NONE	MEDIUM

Crop Description

Crop 1: GLXMA **Discipline:** C **Crop Scale:** BSOY **Use Group:** P
Glycine max (L.) MERR.
Soybean
Variety: AG29X9
Seed/Planting Date: 5/2/2020
Depth: 4.5 CM
Seed/Plant Count: 387790 P/HA
Rows Per Plot: 7
Row Spacing: 38.1 CM
Planting Method: PLANTD
Planting Implement: PP
Planting Crop Stage: 00

Target Description

Target 1: GLXMA **Discipline:** W **Target Scale:** BSOY
Glycine max (L.) MERR.
Soybean
Target 2: CHEAL **Discipline:** W **Target Scale:** BDIC
Chenopodium album L.
Lambsquarters, common
Target 3: ECHCG **Discipline:** W **Target Scale:** BGRM
Echinochloa crus-galli (L.) P.
Barnyardgrass, common

Application Description

	A	B
Application Date	5/4/2020	6/12/2020
Interval to prev. Appl.		39 DAY
Application Timing	PREPRE	EAPOCR
Appl.Start - Time of Day	6:00 PM	9:30 AM
Appl. Stop	6:10 PM	9:55 AM
% Relative Humidity	45	62
Air Temperature	18.33 C	22.22 C
% Cloud Cover	100	0
Appl. Wind Strength	CLM	CLM
Wind Velocity	6.44 KPH	4.51 KPH
Wind Direction/Degrees	ENE	W
Plant Condition	NORMAL	NORMAL
Soil Temperature	15.56 C	21.1 C
Soil Moisture	WET	SLIWET
Problems with Application?	No	No

Crop Stage at Application

	A	B
Crop 1/Disc./Scale	GLXMA, C, BSOY	GLXMA, C, BSOY
Stage Majority/Percent	00, 100	14, 90
Stage Minimum/Percent	00, -	13, 5
Stage Maximum/Percent	00, -	15, 5
Majority Height/Unit		13.97 CM

Target Stage at Application

	A	B
Target 1/Disc./Scale	GLXMA, W, BSOY	GLXMA, W, BSOY
Stage Majority/Percent	00, -	14, -
Stage Minimum/Percent	00, -	13, -
Stage Maximum/Percent	00, -	15, -
Majority Height/Unit		13.97 CM
Target 2/Disc./Scale	CHEAL, W, BDIC	CHEAL, W, BDIC
Stage Majority/Percent	00, -	14, -
Stage Minimum/Percent	00, -	12, -
Stage Maximum/Percent	00, -	16, -
Majority Height/Unit		7.62 CM
Target 3/Disc./Scale	ECHCG, W, BGRM	ECHCG, W, BGRM
Stage Majority/Percent	00, -	12, -
Stage Minimum/Percent	00, -	11, -
Stage Maximum/Percent	00, -	13, -
Majority Height/Unit		5.08 CM

Application Equipment

	A	B
Application Method	SPRAY	SPRAY
Application Placement	BROADC	BROADC
Application Equipment	BACSPR	BACSPR
Ground Speed	4.8 KPH	4.8 KPH
Propellant Type	COMCO2	COMCO2
Carrier	WATER	WATER
Appl./Slurry Volume	140.3	140.3
Appl./Slurry Volume Unit	L/HA	L/HA
Minimum Mix/Treatment	1.564 L	1.564 L
Mix Overage	0 ML	0 ML
Mix Size	1.8 L	1.8 L
Operating Pressure	172.4 KPA	172.4 KPA
Spray Swath Width	3.0480001 M	3.0480001 M
Nozzle Type	TEEJAI	TEEJAI
Nozzle Size	110015	110015
Nozzle Spacing	38.1 CM	38.1 CM
Nozzles/Row	8	8
Boom Height	43.2 CM	43.2 CM

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Trial ID: 20S-TPAC-SOY-15

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Unique Col. ID					1	4	5	6	7	8
Orig./Calc. Flag					O	O	O	O	O	O
SE Group					1	2	2	2	2	2
SE ID					PE12AD1	PE12AD1	PE12AD1	PE12AD1	EE22AD3	EE22AD3
SE Label					Estimat	Estimat	Estimat	Estimat	1 weed,	1 weed,
Target					1, GLXMA	1, GLXMA	1, GLXMA	1, GLXMA	2, CHEAL	3, ECHCG
-Disc./Scale					W, BSOY	W, BSOY	W, BSOY	W, BSOY	W, BDIC	W, BGRM
Crop					1, GLXMA	1, GLXMA	1, GLXMA	1, GLXMA	1, GLXMA	1, GLXMA
-Disc./Scale					C, BSOY	C, BSOY	C, BSOY	C, BSOY	C, BSOY	C, BSOY
Variety					AG29X9	AG29X9	AG29X9	AG29X9	AG29X9	AG29X9
Assessment Type					PHYGEN	PHYGEN	PHYGEN	PHYGEN	CONTRO	CONTRO
Assessment Unit					%	%	%	%	%	%
Sample Size					1	1	1	1	1	1
Sample Size Unit					PLOT	PLOT	PLOT	PLOT	PLOT	PLOT
Sample Size (total)					1	1	1	1	1	1
Assessment Date					6/15/2020	6/19/2020	6/26/2020	7/3/2020	7/3/2020	7/3/2020
Assessment Code					B1	B2	B3	B4	B4	B4
Days after first Appl.					42 DAA	46 DAA	53 DAA	60 DAA	60 DAA	60 DAA
Days after last Appl.					3 DAB	7 DAB	14 DAB	21 DAB	21 DAB	21 DAB
Plant.-Ass.Interval					44 DP1	48 DP1	55 DP1	62 DP1	62 DP1	62 DP1
Entry No.	Entry/Trt. Description	Dose	Dose Unit	Appl. Code	1	2	3	4	5	6
1	UNTREATED				0.0	0.0	0.0	0.0	0.0	0.0
2	WARRANT	1259	G AI/HA	A	6.3 b	8.8 b	9.3 -	4.0 bc	100.0 -	100.0 -
	XTENDIMAX VAPORGRIP	562.6	G AI/HA	A						
	TAVIUM	1672	G AI/HA	B						
	ROUNDUP POWER MAX	1263	G AI/HA	B						
	INTACT DRIFT CONTROL & FOLIAR AGENT (DFR)	321.3	G AI/HA	B						
3	WARRANT	1259	G AI/HA	A	5.5 bc	8.8 b	16.8 -	7.8 a	100.0 -	100.0 -
	XTENDIMAX VAPORGRIP	562.6	G AI/HA	A						
	DUAL MAGNUM	1113	G AI/HA	B						
	XTENDIMAX VAPORGRIP	562.6	G AI/HA	B						
	ROUNDUP POWER MAX	1263	G AI/HA	B						
	INTACT DRIFT CONTROL & FOLIAR AGENT (DFR)	321.3	G AI/HA	B						
4	WARRANT	1259	G AI/HA	A	4.5 bc	5.5 c	13.8 -	6.3 abc	100.0 -	100.0 -
	XTENDIMAX VAPORGRIP	562.6	G AI/HA	A						
	WARRANT	1259	G AI/HA	B						
	XTENDIMAX VAPORGRIP	562.6	G AI/HA	B						
	ROUNDUP POWER MAX	1263	G AI/HA	B						
	INTACT DRIFT CONTROL & FOLIAR AGENT (DFR)	321.3	G AI/HA	B						
5	WARRANT	1259	G AI/HA	A	5.5 bc	8.5 b	9.3 -	2.8 c	100.0 -	100.0 -
	XTENDIMAX VAPORGRIP	562.6	G AI/HA	A						
	OUTLOOK	735.5	G AI/HA	B						
	ENGENIA	561	G AI/HA	B						
	ROUNDUP POWER MAX	1263	G AI/HA	B						
	INTACT DRIFT CONTROL & FOLIAR AGENT (DFR)	321.3	G AI/HA	B						
6	WARRANT	1259	G AI/HA	A	3.5 c	5.5 c	10.3 -	3.0 c	100.0 -	100.0 -
	XTENDIMAX VAPORGRIP	562.6	G AI/HA	A						
	ZIDUA HERBICIDE	119.1	G AI/HA	B						
	ENGENIA	561	G AI/HA	B						
	ROUNDUP POWER MAX	1263	G AI/HA	B						
7	WARRANT	1259	G AI/HA	A	5.0 bc	8.5 b	11.3 -	5.5 abc	100.0 -	100.0 -
	XTENDIMAX VAPORGRIP	562.6	G AI/HA	A						
	WARRANT ULTRA HERBICIDE	1509	G AI/HA	B						
	ROUNDUP POWER MAX	1263	G AI/HA	B						
	XTENDIMAX VAPORGRIP	562.6	G AI/HA	B						
	INTACT DRIFT CONTROL & FOLIAR AGENT (DFR)	321.3	G AI/HA	B						
8	WARRANT	1259	G AI/HA	A	4.5 bc	9.3 b	13.8 -	8.0 a	100.0 -	100.0 -
	XTENDIMAX VAPORGRIP	562.6	G AI/HA	A						
	WARRANT ULTRA HERBICIDE	1509	G AI/HA	B						
	ROUNDUP POWER MAX	1263	G AI/HA	B						

Means followed by same letter or symbol do not significantly differ (P=.05, LSD).
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
Untreated treatment(s) 1 excluded from analysis.
Could not calculate LSD (% mean diff) for columns 5,6 because error mean square = 0.
^Calculated from residual.

Unique Col. ID				1	4	5	6	7	8
Orig./Calc. Flag				O	O	O	O	O	O
SE Group				1	2	2	2	2	2
SE ID				PE12AD1	PE12AD1	PE12AD1	PE12AD1	EE22AD3	EE22AD3
SE Label				Estimat	Estimat	Estimat	Estimat	1 weed,	1 weed,
Target				1, GLXMA	1, GLXMA	1, GLXMA	1, GLXMA	2, CHEAL	3, ECHCG
-Disc./Scale				W, BSOY	W, BSOY	W, BSOY	W, BSOY	W, BDIC	W, BGRM
Crop				1, GLXMA	1, GLXMA	1, GLXMA	1, GLXMA	1, GLXMA	1, GLXMA
-Disc./Scale				C, BSOY	C, BSOY	C, BSOY	C, BSOY	C, BSOY	C, BSOY
Variety				AG29X9	AG29X9	AG29X9	AG29X9	AG29X9	AG29X9
Assessment Type				PHYGEN	PHYGEN	PHYGEN	PHYGEN	CONTRO	CONTRO
Assessment Unit				%	%	%	%	%	%
Sample Size				1	1	1	1	1	1
Sample Size Unit				PLOT	PLOT	PLOT	PLOT	PLOT	PLOT
Sample Size (total)				1	1	1	1	1	1
Assessment Date				6/15/2020	6/19/2020	6/26/2020	7/3/2020	7/3/2020	7/3/2020
Assessment Code				B1	B2	B3	B4	B4	B4
Days after first Appl.				42 DAA	46 DAA	53 DAA	60 DAA	60 DAA	60 DAA
Days after last Appl.				3 DAB	7 DAB	14 DAB	21 DAB	21 DAB	21 DAB
Plant.-Ass.Interval				44 DP1	48 DP1	55 DP1	62 DP1	62 DP1	62 DP1
Entry No.	Entry/Trt. Description	Dose	Dose Unit	Appl. Code	1	2	3	4	5	6
9	WARRANT	1259	G AI/HA	A	9.0 a	15.0 a	14.3 -	7.5 ab	100.0 -	100.0 -
	XTENDIMAX VAPORGRIP	562.6	G AI/HA	A						
	ROUNDUP POWER MAX	1263	G AI/HA	B						
	PREFIX	2133	G AI/HA	B						
10	WARRANT	1259	G AI/HA	A	5.5 bc	10.0 b	16.3 -	8.0 a	100.0 -	100.0 -
	XTENDIMAX VAPORGRIP	562.6	G AI/HA	A						
	ROUNDUP POWER MAX	1263	G AI/HA	B						
	COBRA	219.2	G AI/HA	B						
LSD P=.05					2.46	2.80	6.09	3.57	.	.
Standard Deviation					1.69	1.92	4.18	2.45	0.00	0.00
CV					30.86	21.66	32.75	41.72	0.0	0.0
Grand Mean					5.47	8.86	12.75	5.86	100.00	100.00
Levene's F^					0.798	0.835	0.882	1.038	.	.
Levene's Prob(F)					0.609	0.58	0.544	0.433	.	.
Rank X2					.	.	.	.	.	.
P(Rank X2)					.	.	.	.	.	.
Skewness^					-0.1014	-0.821*	0.005	-0.1503	.	.
Kurtosis^					-1.0442	0.6265	-0.8836	-0.3213	.	.
Replicate F					7.282	0.712	9.756	9.408	0.000	0.000
Replicate Prob(F)					0.0012	0.5547	0.0002	0.0003	1.0000	1.0000
Treatment F					3.341	8.419	1.878	3.095	0.000	0.000
Treatment Prob(F)					0.0103	0.0001	0.1110	0.0151	1.0000	1.0000

SE ID
PE12AD1 = Estimation % phytotoxicity (PHYGEN) (symptoms describe in co
EE22AD3 = 1 weed, % efficacy, in untreated % coverage
Target
1, GLXMA, W, BSOY, , , = Glycine max (L.) MERR.
2, CHEAL, W, BDIC, , , = Chenopodium album L.
3, ECHCG, W, BGRM, , , = Echinochloa crus-galli (L.) P.
Crop
1, GLXMA, C, BSOY, AG29X9, = Glycine max (L.) MERR.
Assessment Type
PHYGEN = Phytotoxicity - General, Injury
CONTRO = Control
Assessment Unit
% = Percent
Sample Size Unit
PLOT = Plot
Plant.-Ass.Interval
44 DP1 = 1 GLXMA 5/2/2020
48 DP1 = 1 GLXMA 5/2/2020
55 DP1 = 1 GLXMA 5/2/2020
62 DP1 = 1 GLXMA 5/2/2020

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