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SOYBEAN RESPONSE TO HPPD HERBICIDES - 58 DAT

Trial ID: SB-02-23 Study Dir.: NICK SHAY
 Location: PONDER FARM Investigator: Eric P. Prostko

Reps: 4 Plots: 6 by 25 feet
 Appl. Amount: 15 GAL/AC Mix Size: 1.5 L (total for 4 plots; minimum=0.782 L)

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Appl Stg Code	Amt Product to Measure	Diluent	Rep			
									1	2	3	4
1	NTC							-	101	203	305	403
2	CALLISTO	4	SC	3.0 oz/a	PRE	A	2.344 mL/mx	1497.7 mL	102	201	303	402
3	LAUDIS	3.5	SC	3.0 oz/a	PRE	A	2.344 mL/mx	1497.7 mL	103	205	301	405
4	IMPACT	2.8	SC	1.25 oz/a	PRE	A	0.9766 mL/mx	1499 mL	104	202	304	401
5	SHIELDEX	3.33	SC	1.35 oz/a	PRE	A	1.055 mL/mx	1498.9 mL	105	204	302	404

Sort Order: Replicate 1

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Trial Comments

LAST TILLAGE: 03/27/23

MAINTAINED WEED-FREE

RAINFALL TOTALs APRIL 3- NOVEMBER 1: 32.14" (26.19" LONG-TERM AVERAGE)

VALOR @ 2 OZ/A + PROWL H20 @ 32 OZ/A OVER WHOLE TEST AREA (03/30/23)

ROUNDUP POWERMAX3 @ 32 OZ/A (04/14/23)

LIBERTY @ 32 OZ/A (04/25/23)

LIBERTY @ 22 OZ/A + ROUNDUP POWERMAX3 @ 22 OZ/A + ZIDUA @ 2.5 OZ/A (05/25/23)

LIBERTY @ 32 OZ/A + ROUNDUP POWERMAX3 @ 32 OZ/A + DUAL MAGNUM @ 16 OZ/A (06/21/23)

ALTO @ 5.5 OZ/A + DIMILIN @ 2 OZ/A + BORN @ 32 OZ/A (07/31/23)

ALTO @ 5.5 OZ/A (08/18/23)

ROUNDUP POWERMAX3 @ 32 OZ/A (09/05/23)

CURRENT SOYBEAN ROTATION RESTRICTIONS:

CALLISTO = 10 MONTHS

LAUDIS = 8 MONTHS

IMPACT = 9 MONTHS

SHIELDEX = 9 MONTHS

HARVEST DATE: 11/01/23

HARVEST MOISTURE: 10.25%

YIELDS ADJUSTED TO 13%

MISSING YIELD DATA IN PLOT 301 DUE TO COMBINE ERROR.

SUMMARY:

1) CALLISTO CAUSED SLIGHT SOYBEAN STUNTING AND CHLOROSIS BUT HAD NO EFFECT ON SOYBEAN HEIGHT OR YIELD.

2) LAUDIS HAD NO EFFECT ON SOYBEAN INJURY, HEIGHT OR YIELD.

3) IMPACT CAUSED SIGNIFICANT STUNTING, CHLOROSIS, BLEACHING, HEIGHT REDUCTIONS, AND YIELD LOSS (95%). IMPACT WAS THE MOST INJURIOUS HPPD HERBICIDE.

4) SHIELDEX CAUSED SIGNIFICANT STUNTING, CHLOROSIS, BLEACHING, HEIGHT REDUCTIONS, AND YIELD LOSS (55%).

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GENERAL TRIAL INFORMATION

Study Director: NICK SHAY **Title:** _____
Affiliation: _____
Postal Code: _____

Investigator: Eric P. Prostko **Title:** _____
Affiliation: _____
Postal Code: _____

TRIAL LOCATION

City: _____ **Trial Status:** E
State/Prov.: _____ **Trial Reliability:** _____
Postal Code: _____ **Initiation Date:** _____
Country: _____ **Planned Completion Date:** _____
E-Longitude of LL Corner °: _____ **N-Latitude of LL Corner °:** _____
Altitude of LL Corner: _____ **Unit:** _____ **Angle y-axis to North °:** _____
Directions: _____

COOPERATOR/LANDOWNER

Cooperator: _____ **Country:** _____
Org: _____ **Phone No:** _____
Address 1: _____ **Fax No:** _____
Address 2: _____
City: _____
State/Prov: _____
Postal Code: _____

Conducted Under GLP (Y/N): N **Conducted Under GEP (Y/N):** N
Guidelines: _____ **Guideline Description:** _____

Objective: _____

Conclusions: _____

CROP AND WEED DESCRIPTION

Weed	Code	Common Name	Scientific Name
1.			

Crop 1: GLYMA SOYBEAN **Variety:** ASGROW AG66XF2
Planting Date: May-30-23 **Planting Method:** GP-3P605NT DRILL
Rate: 140000 S/A **Depth:** 1.5 IN **Perennial Age:** _____
Row Spacing: 15 IN **Spacing Within Row:** _____ **Seed Bed:** _____
Soil Temperature: _____ **Soil Moisture:** OPTIMUM **Emergence Date:** _____

SITE AND DESIGN

Plot Width, Unit: 6 FT **Plot Length, Unit:** 25 FT **Reps:** 4
Site Type: _____
Tillage Type: CONVENTIONAL **Study Design:** RACOBL

Trial Initiation Comments: _____

Previous Crops	Previous Pesticides	Year
1. PEANUT		2022

MAINTENANCE

Field Prep./Maintenance: 1 TON/A LIME - PREPLANT
 300 LBS/A 5-15-30 - PREPLANT

No.	Date	Maintenance Treatment Name	Form Conc	Form Unit	Form Type	Rate	Rate Unit
1.							

SOIL DESCRIPTION

% Sand: 92 **% OM:** 0.65 **Texture:** SAND
% Silt: 4 **pH:** 6.0 **Soil Name:** TIFTON
% Clay: 4 **CEC:** 2.5 **Fert. Level:** GOOD

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ADDITIONAL MEASURED ELEMENTS

Element	Quantity	Unit

MOISTURE CONDITIONS

	Date	Time	Amount	Unit	Type	Interval	Unit
1.	Apr-3-23		0.83	IN	RAINFALL		
2.	Apr-8-23		0.4	IN	RAINFALL		
3.	Apr-19-23		0.5	IN	SPRINKLER - LATERAL MOVE		
4.	Apr-21-23		0.3	IN	SPRINKLER - LATERAL MOVE		
5.	Apr-27-23		1.0	IN	RAINFALL		
6.	Apr-29-23		0.65	IN	RAINFALL		
7.	May-11-23		0.5	IN	SPRINKLER - LATERAL MOVE		
8.	May-12-23		2.5	IN	RAINFALL		
9.	May-20-23		0.1	IN	RAINFALL		
10.	May-22-23		0.75	IN	RAINFALL		
11.	May-23-23		0.3	IN	RAINFALL		
12.	May-30-23		0.5	IN	SPRINKLER - LATERAL MOVE		
13.	Jun-7-23		0.5	IN	SPRINKLER - LATERAL MOVE		
14.	Jun-7-23		0.5	IN	RAINFALL		
15.	Jun-12-23		0.65	IN	RAINFALL		
16.	Jun-13-23		0.6	IN	RAINFALL		
17.	Jun-14-23		2.0	IN	RAINFALL		
18.	Jun-15-23		2.2	IN	RAINFALL		

Overall Moisture Conditions: _____
 Closest Weather Station: _____ Distance: _____ Unit: _____

APPLICATION DESCRIPTION

	A
Application Date:	Apr-3-23
Time of Day:	7:05 AM
Application Method:	BROADCAST
Application Timing:	PRE
Applic. Placement:	SOIL
Air Temp., Unit:	58 F
% Relative Humidity:	84
Wind Velocity, Unit:	0 MPH
Dew Presence (Y/N):	N
Water Hardness:	--
Soil Temp., Unit:	63 F
Soil Moisture:	OPTIMUM
% Cloud Cover:	100

CROP STAGE AT EACH APPLICATION

	A
Crop 1 Code, Stage:	GLYMA,
Stage Scale:	
Height, Unit:	

WEED STAGE AT EACH APPLICATION

	A
Weed 1 Code, Stage:	
Stage Scale:	
Density, Unit:	

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Trial ID: SB-02-23 Study Dir.: NICK SHAY
 Location: PONDER FARM Investigator: Eric P. Prostko

APPLICATION EQUIPMENT

	A
Appl. Equipment:	BACKPACK
Operating Pressure:	38
Nozzle Type:	AIXR
Nozzle Size:	11002
Nozzle Spacing, Unit:	20 IN
Nozzles/Row:	
Band Width, Unit:	
Boom Length, Unit:	60 IN
Boom Height, Unit:	20 IN
Ground Speed, Unit:	3.5 MPH
Incorporation Equip.:	
Hours to Incorp.:	
Incorp. Depth, Unit:	
Carrier:	WATER
Spray Volume, Unit:	15 GPA
Spray pH:	
Propellant:	CO2
Tank Mix (Y/N):	

Trt No	Treatment Application Comment

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Trial ID: SB-02-23		Study Dir.: NICK SHAY																					
Location: PONDER FARM		Investigator: Eric P. Prostko																					
Crop Code	Glyma	Glyma	Glyma	Glyma	Glyma	Glyma	Glyma	Glyma	Glyma	Glyma	Glyma												
Part Rated	#/5ft	Stunting %	Chlorosis %	Stunting %	Bleaching %	Chlorosis %	Hg1 Inches	Hgt2 Inches	Hgt3 Inches	Hgt4 Inches	Hgt5 Inches												
Rating Data Type	Jun-14-23	Jun-14-23	Jun-14-23	Jun-22-23	Jun-22-23	Jun-22-23	Jun-30-23	Jun-30-23	Jun-30-23	Jun-30-23	Jun-30-23												
Rating Unit	1	2	3	4	5	6	7	8	9	10	11												
Rating Date	Jun-14-23	Jun-14-23	Jun-14-23	Jun-22-23	Jun-22-23	Jun-22-23	Jun-30-23	Jun-30-23	Jun-30-23	Jun-30-23	Jun-30-23												
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Appl Stg	Code																
1	NTC	18.8 -		0.0 d	0.0 c		0.0 c	0.0 b		0.0 c		6.8 -	7.25 -	7.63 -	8.50 a	8.00 -							
2	CALLISTO	4 SC	3.0 oz/a	PRE	A	21.0 -		3.8 c	1.3 c		1.3 c	0.0 b		0.0 c		8.0 -	8.00 -	7.75 -	8.75 a	8.25 -			
3	LAUDIS	3.5 SC	3.0 oz/a	PRE	A	20.0 -		0.0 d	0.0 c		0.0 c	0.0 b		0.0 c		7.3 -	8.50 -	8.00 -	8.50 a	8.38 -			
4	IMPACT	2.8 SC	1.25 oz/a	PRE	A	20.5 -		15.0 a	37.5 a		23.8 a	5.0 a		45.0 a		6.8 -	7.13 -	6.75 -	6.13 b	6.88 -			
5	SHIELDDEX	3.33 SC	1.35 oz/a	PRE	A	22.0 -		10.0 b	7.5 b		11.3 b	0.0 b		18.8 b		7.0 -	7.13 -	8.38 -	8.13 a	7.50 -			
LSD P=.10		3.33		3.15		2.44		5.78		.		3.73		1.44		1.018		1.078		1.117		1.514	
Standard Deviation		2.65		2.50		1.94		4.59		0.00		2.96		1.14		0.808		0.855		0.886		1.202	
CV		12.94		43.48		20.94		63.27		0.0		23.2		16.0		10.63		11.11		11.08		15.4	
Grand Mean		20.45		5.75		9.25		7.25		1.00		12.75		7.15		7.600		7.700		8.000		7.800	

Means followed by same letter or symbol do not significantly differ (P=.10, LSD).
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
 Missing data estimates are included in columns: Average=22,23
 Could not calculate LSD (% mean diff) for columns 5 because error mean square = 0.
 ^Calculated from residual.

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Trial ID: SB-02-23		Study Dir.: NICK SHAY														
Location: PONDER FARM		Investigator: Eric P. Prostko														
Crop Code	GLYMA	Glyma	Glyma	Glyma	Glymq	Glyma	Glyma	Glyma	Glyma	Glyma	GLYMA	GLYMA				
Part Rated	AVG-HGT	Stand	Stunting	Bleaching	Hgt1	Hgt2	Hgt3	Hgt4	Hgt5	AVG-HGT	YIELD	PLOT, -				
Rating Data Type	INCHES	#/5ft	%	%	In	In	In	In	In	INCHES	LBS/PLOT	Nov-1-23				
Rating Unit	Jun-30-23	Jun-30-23	Jul-19-23	Jul-19-23	Jul-19-23	Jul-19-23	Jul-19-23	Jul-19-23	Jul-19-23	Jul-19-23	Jul-19-23	Nov-1-23				
Rating Date	12	13	14	15	16	17	18	19	20	21	22					
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Appl Stg	Code									
1	NTC	7.6 a	21.8 -	0.0 c	0.0 c	17.3 a	17.5 b	19.25 a	19.8 a	20.5 ab	18.9 b	12.78 a				
2	CALLISTO	4 SC	3.0 oz/a	PRE	A	8.2 a	23.0 -	1.3 c	0.0 c	19.8 a	20.5 a	19.75 a	20.0 a	18.8 b	19.8 ab	11.90 a
3	LAUDIS	3.5 SC	3.0 oz/a	PRE	A	8.1 a	23.0 -	0.0 c	0.0 c	18.5 a	20.5 a	20.0 a	21.3 a	21.8 a	20.4 a	12.57 a
4	IMPACT	2.8 SC	1.25 oz/a	PRE	A	6.7 b	20.0 -	51.3 a	61.3 a	10.5 b	9.8 c	9.50 c	10.0 b	9.0 d	9.8 d	0.68 c
5	SHIELDEX	3.33 SC	1.35 oz/a	PRE	A	7.6 a	21.5 -	35.0 b	35.0 b	12.0 b	11.5 c	12.88 b	11.5 b	13.3 c	12.2 c	5.75 b
LSD P=.10		0.56	5.32	7.82	6.35	2.64	1.99	2.731	2.20	2.48	1.50	1.896				
Standard Deviation		0.44	4.22	6.21	5.04	2.10	1.58	2.167	1.75	1.96	1.19	1.493				
CV		5.77	19.33	35.48	26.19	13.43	9.88	13.31	10.6	11.8	7.35	17.1				
Grand Mean		7.65	21.85	17.50	19.25	15.60	15.95	16.275	16.50	16.65	16.20	8.733				

Means followed by same letter or symbol do not significantly differ (P=.10, LSD).
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.
 Missing data estimates are included in columns: Average=22,23
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SOYBEAN RESPONSE TO HPPD HERBICIDES - 58 DAT						
Trial ID: SB-02-23		Study Dir.: NICK SHAY				
Location: PONDER FARM		Investigator: Eric P. Prostko				
Crop Code	GLYMA					
Part Rated	PLOT, -					
Rating Data Type	YIELD					
Rating Unit	BU/A					
Rating Date	Nov-1-23					
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Appl Stg Code
1	NTC					23 102 a
2	CALLISTO	4	SC	3.0 oz/a	PRE	A 95 a
3	LAUDIS	3.5	SC	3.0 oz/a	PRE	A 100 a
4	IMPACT	2.8	SC	1.25 oz/a	PRE	A 5 c
5	SHIELDEX	3.33	SC	1.35 oz/a	PRE	A 46 b
LSD P=.10						15.1
Standard Deviation						11.9
CV						17.1
Grand Mean						69.8

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 Missing data estimates are included in columns: Average=22,23
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 ^Calculated from residual.

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Trial ID:	SB-02-23	Study Dir.:	NICK SHAY		
Location:	PONDER FARM	Investigator:	Eric P. Prostko		
Randomized Complete Block (RCB) AOV For Glyma #5ft Jun-14-23 (Data Column 1)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	154.950000			
Replicate	3	47.750000	15.916667	2.274	0.1322
Treatment	4	23.200000	5.800000	0.829	0.5321
Error	12	84.000000	7.000000		
Randomized Complete Block (RCB) AOV For Glyma Stunting % Jun-14-23 (Data Column 2)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	813.750000			
Replicate	3	43.750000	14.583333	2.333	0.1256
Treatment	4	695.000000	173.750000	27.800	0.0001
Error	12	75.000000	6.250000		
Randomized Complete Block (RCB) AOV For Glyma Chlorosis % Jun-14-23 (Data Column 3)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	4213.750000			
Replicate	3	23.750000	7.916667	2.111	0.1522
Treatment	4	4145.000000	1036.250000	276.333	0.0001
Error	12	45.000000	3.750000		
Randomized Complete Block (RCB) AOV For Glyma Stunting % Jun-22-23 (Data Column 4)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	2123.750000			
Replicate	3	153.750000	51.250000	2.436	0.1152
Treatment	4	1717.500000	429.375000	20.406	0.0001
Error	12	252.500000	21.041667		
Randomized Complete Block (RCB) AOV For Glyma Bleaching % Jun-22-23 (Data Column 5)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	80.000000			
Replicate	3	0.000000	0.000000	0.000	1.0000
Treatment	4	80.000000	20.000000	0.000	1.0000
Error	12	0.000000	0.000000		
Randomized Complete Block (RCB) AOV For Glyma Chlorosis % Jun-22-23 (Data Column 6)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	6373.750000			
Replicate	3	13.750000	4.583333	0.524	0.6741
Treatment	4	6255.000000	1563.750000	178.714	0.0001
Error	12	105.000000	8.750000		
Randomized Complete Block (RCB) AOV For Glyma Hgt1 Inches Jun-30-23 (Data Column 7)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	22.550000			
Replicate	3	2.550000	0.850000	0.650	0.5981
Treatment	4	4.300000	1.075000	0.822	0.5359
Error	12	15.700000	1.308333		
Randomized Complete Block (RCB) AOV For Glyma Hgt2 Inches Jun-30-23 (Data Column 8)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	15.800000			
Replicate	3	1.800000	0.600000	0.920	0.4605
Treatment	4	6.175000	1.543750	2.367	0.1112
Error	12	7.825000	0.652083		
Randomized Complete Block (RCB) AOV For Glyma Hgt3 Inches Jun-30-23 (Data Column 9)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	25.700000			
Replicate	3	11.100000	3.700000	5.060	0.0171
Treatment	4	5.825000	1.456250	1.991	0.1600
Error	12	8.775000	0.731250		
Randomized Complete Block (RCB) AOV For Glyma Hgt4 Inches Jun-30-23 (Data Column 10)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	37.500000			
Replicate	3	9.700000	3.233333	4.117	0.0319
Treatment	4	18.375000	4.593750	5.849	0.0075
Error	12	9.425000	0.785417		

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Randomized Complete Block (RCB) AOV For Glyma Hgt5 Inches Jun-30-23 (Data Column 11)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	26.200000			
Replicate	3	2.800000	0.933333	0.646	0.6000
Treatment	4	6.075000	1.518750	1.052	0.4213
Error	12	17.325000	1.443750		
Randomized Complete Block (RCB) AOV For GLYMA AVG-HGT INCHES Jun-30-23 (Data Column 12)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	9.930000			
Replicate	3	2.258000	0.752667	3.857	0.0383
Treatment	4	5.330000	1.332500	6.827	0.0042
Error	12	2.342000	0.195167		
Randomized Complete Block (RCB) AOV For Glyma Stand #/5ft Jun-30-23 (Data Column 13)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	244.550000			
Replicate	3	5.750000	1.916667	0.107	0.9541
Treatment	4	24.800000	6.200000	0.348	0.8407
Error	12	214.000000	17.833333		
Randomized Complete Block (RCB) AOV For Glyma Stunting % Jul-19-23 (Data Column 14)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	10075.000000			
Replicate	3	325.000000	108.333333	2.811	0.0846
Treatment	4	9287.500000	2321.875000	60.243	0.0001
Error	12	462.500000	38.541667		
Randomized Complete Block (RCB) AOV For Glyma Bleaching % Jul-19-23 (Data Column 15)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	12913.750000			
Replicate	3	113.750000	37.916667	1.492	0.2666
Treatment	4	12495.000000	3123.750000	122.902	0.0001
Error	12	305.000000	25.416667		
Randomized Complete Block (RCB) AOV For Glymq Hgt1 In Jul-19-23 (Data Column 16)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	342.800000			
Replicate	3	20.800000	6.933333	1.579	0.2459
Treatment	4	269.300000	67.325000	15.330	0.0001
Error	12	52.700000	4.391667		
Randomized Complete Block (RCB) AOV For Glyma Hgt2 In Jul-19-23 (Data Column 17)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	440.950000			
Replicate	3	2.950000	0.983333	0.396	0.7583
Treatment	4	408.200000	102.050000	41.094	0.0001
Error	12	29.800000	2.483333		
Randomized Complete Block (RCB) AOV For Glyma Hgt3 In Jul-19-23 (Data Column 18)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	480.737500			
Replicate	3	55.337500	18.445833	3.928	0.0364
Treatment	4	369.050000	92.262500	19.648	0.0001
Error	12	56.350000	4.695833		
Randomized Complete Block (RCB) AOV For Glyma Hgt4 In Jul-19-23 (Data Column 19)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	505.000000			
Replicate	3	17.800000	5.933333	1.940	0.1770
Treatment	4	450.500000	112.625000	36.826	0.0001
Error	12	36.700000	3.058333		
Randomized Complete Block (RCB) AOV For Glyma Hgt5 In Jul-19-23 (Data Column 20)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	532.550000			
Replicate	3	24.950000	8.316667	2.156	0.1464
Treatment	4	461.300000	115.325000	29.890	0.0001
Error	12	46.300000	3.858333		

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Randomized Complete Block (RCB) AOV For GLYMA AVG-HGT INCHES Jul-19-23 (Data Column 21)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	19	408.489500			
Replicate	3	12.793500	4.264500	3.006	0.0724
Treatment	4	378.672000	94.668000	66.730	0.0001
Error	12	17.024000	1.418667		
Randomized Complete Block (RCB) AOV For GLYMA PLOT YIELD LBS/PLOT Nov-1-23 (Data Column 22)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	18	494.628889			
Replicate	3	10.532000	3.510667	1.575	0.2511
Treatment	4	459.577222	114.894306	51.544	0.0001
Error	11	24.519667	2.229061		
Randomized Complete Block (RCB) AOV For GLYMA PLOT YIELD BU/A Nov-1-23 (Data Column 23)					
Source	DF	Sum of Squares	Mean Square	F	Prob(F)
Total	18	31567.528103			
Replicate	3	672.158892	224.052964	1.575	0.2511
Treatment	4	29330.508597	7332.627149	51.544	0.0001
Error	11	1564.860614	142.260056		
<u>Rating Unit</u>					
% = PERCENT					
In = INCH					
<u>ARM Action Codes</u>					
T2 = ((C7)+[C8]+[C9]+[C10]+[C11])/5					
T3 = ([16]+[17]+[18]+[19]+[20])/5					
TY1 = 7.98878161*[C22]					

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SOYBEAN RESPONSE TO HPPD HERBICIDES - 58 DAT																			
Trial ID: SB-02-23		Study Dir.: NICK SHAY																	
Location: PONDER FARM		Investigator: Eric P. Prostko																	
Crop Code	Glyma	Glyma	Glyma	Glyma	Glyma	Glyma	Glyma	Glyma	Glyma	Glyma	Glyma								
Part Rated	#/5ft	Stunting %	Chlorosis %	Stunting %	Bleaching %	Chlorosis %	Hg1 Inches	Hg2 Inches	Hg3 Inches	Hg4 Inches	Glyma								
Rating Data Type	Jun-14-23	Jun-14-23	Jun-14-23	Jun-22-23	Jun-22-23	Jun-22-23	Jun-30-23	Jun-30-23	Jun-30-23	Jun-30-23	Jun-30-23								
Rating Unit	1	2	3	4	5	6	7	8	9	10	10								
Rating Date	1	2	3	4	5	6	7	8	9	10	10								
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Appl Stg	Code	Plot					Plot						
1	NTC							101	17.0	0.0	0.0	0.0	0.0	0.0	8.0	8.00	8.00	8.00	8.00
								203	21.0	0.0	0.0	0.0	0.0	0.0	6.0	7.00	7.00	7.00	10.00
								305	18.0	0.0	0.0	0.0	0.0	0.0	6.0	7.00	7.00	7.00	7.00
								403	19.0	0.0	0.0	0.0	0.0	0.0	7.0	7.00	8.50	9.00	9.00
								Mean =	18.8	0.0	0.0	0.0	0.0	0.0	6.8	7.25	7.63	8.50	8.50
2	CALLISTO	4 SC	3.0 oz/a	PRE	A			102	22.0	10.0	5.0	5.0	0.0	0.0	8.0	8.50	6.50	9.00	9.00
								201	24.0	0.0	0.0	0.0	0.0	0.0	7.0	7.50	8.50	9.00	9.00
								303	18.0	5.0	0.0	0.0	0.0	0.0	9.0	8.00	7.00	7.00	7.00
								402	20.0	0.0	0.0	0.0	0.0	0.0	8.0	8.00	9.00	10.00	10.00
								Mean =	21.0	3.8	1.3	1.3	0.0	0.0	8.0	8.00	7.75	8.75	8.75
3	LAUDIS	3.5 SC	3.0 oz/a	PRE	A			103	21.0	0.0	0.0	0.0	0.0	0.0	6.0	7.00	8.00	7.00	7.00
								205	19.0	0.0	0.0	0.0	0.0	0.0	7.0	8.00	8.50	10.00	10.00
								301	18.0	0.0	0.0	0.0	0.0	0.0	7.0	9.00	6.00	8.00	8.00
								405	22.0	0.0	0.0	0.0	0.0	0.0	9.0	10.00	9.50	9.00	9.00
								Mean =	20.0	0.0	0.0	0.0	0.0	0.0	7.3	8.50	8.00	8.50	8.50
4	IMPACT	2.8 SC	1.25 oz/a	PRE	A			104	23.0	20.0	40.0	40.0	5.0	50.0	6.0	7.00	7.00	5.00	5.00
								202	17.0	15.0	40.0	15.0	5.0	50.0	7.0	8.00	7.00	7.50	7.50
								304	18.0	15.0	35.0	20.0	5.0	40.0	7.0	6.00	5.00	6.00	6.00
								401	24.0	10.0	35.0	20.0	5.0	40.0	7.0	7.50	8.00	6.00	6.00
								Mean =	20.5	15.0	37.5	23.8	5.0	45.0	6.8	7.13	6.75	6.13	6.13
5	SHIELDEX	3.33 SC	1.35 oz/a	PRE	A			105	22.0	10.0	10.0	15.0	0.0	20.0	5.0	7.00	7.00	9.00	9.00
								204	18.0	10.0	5.0	10.0	0.0	15.0	9.0	7.00	8.50	8.00	8.00
								302	20.0	10.0	5.0	10.0	0.0	20.0	7.0	6.50	9.00	7.50	7.50
								404	28.0	10.0	10.0	10.0	0.0	20.0	7.0	8.00	9.00	8.00	8.00
								Mean =	22.0	10.0	7.5	11.3	0.0	18.8	7.0	7.13	8.38	8.13	8.13

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SOYBEAN RESPONSE TO HPPD HERBICIDES - 58 DAT																		
Trial ID: SB-02-23		Study Dir.: NICK SHAY																
Location: PONDER FARM		Investigator: Eric P. Prostko																
Crop Code	Glyma	GLYMA	Glyma	Glyma	Glyma	Glymq	Glyma	Glyma	Glyma	Glyma	Glyma							
Part Rated	Hgt5	AVG-HGT	Stand	Stunting	Bleaching	Hgt1	Hgt2	Hgt3	Hgt4	Hgt5	Hgt5							
Rating Data Type	Inches	INCHES	#/5ft	%	%	In	In	In	In	In	In							
Rating Unit	Jun-30-23	Jun-30-23	Jun-30-23	Jul-19-23	Jul-19-23	Jul-19-23	Jul-19-23	Jul-19-23	Jul-19-23	Jul-19-23	Jul-19-23							
Rating Date	Jun-30-23	Jun-30-23	Jun-30-23	Jul-19-23	Jul-19-23	Jul-19-23	Jul-19-23	Jul-19-23	Jul-19-23	Jul-19-23	Jul-19-23							
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Grow Unit	Appl Stg	Code	Plot	11	12	13	14	15	16	17	18	19	20
1	NTC							101	9.00	8.2	22.0	0.0	0.0	20.0	19.0	18.00	19.0	22.0
								203	8.00	7.6	17.0	0.0	0.0	13.0	16.0	17.00	17.0	18.0
								305	7.00	6.8	24.0	0.0	0.0	18.0	18.0	21.00	21.0	22.0
								403	8.00	7.9	24.0	0.0	0.0	18.0	17.0	21.00	22.0	20.0
								Mean =	8.00	7.6	21.8	0.0	0.0	17.3	17.5	19.25	19.8	20.5
2	CALLISTO	4 SC		3.0 oz/a	PRE	A		102	7.00	7.8	19.0	5.0	0.0	21.0	21.0	17.00	21.0	18.0
								201	10.00	8.4	29.0	0.0	0.0	21.0	20.0	21.00	21.0	20.0
								303	8.00	7.8	25.0	0.0	0.0	19.0	20.0	20.00	18.0	19.0
								402	8.00	8.6	19.0	0.0	0.0	18.0	21.0	21.00	20.0	18.0
								Mean =	8.25	8.2	23.0	1.3	0.0	19.8	20.5	19.75	20.0	18.8
3	LAUDIS	3.5 SC		3.0 oz/a	PRE	A		103	8.00	7.2	25.0	0.0	0.0	18.0	22.0	18.00	21.0	22.0
								205	9.50	8.6	26.0	0.0	0.0	18.0	18.0	19.00	20.0	21.0
								301	9.00	7.8	20.0	0.0	0.0	17.0	21.0	20.00	21.0	20.0
								405	7.00	8.9	21.0	0.0	0.0	21.0	21.0	23.00	23.0	24.0
								Mean =	8.38	8.1	23.0	0.0	0.0	18.5	20.5	20.00	21.3	21.8
4	IMPACT	2.8 SC		1.25 oz/a	PRE	A		104	7.00	6.4	23.0	65.0	65.0	10.0	9.0	9.00	7.0	9.0
								202	8.00	7.5	13.0	50.0	65.0	9.0	10.0	11.00	9.0	8.0
								304	6.50	6.1	19.0	55.0	65.0	8.0	10.0	9.00	10.0	6.0
								401	6.00	6.9	25.0	35.0	50.0	15.0	10.0	9.00	14.0	13.0
								Mean =	6.88	6.7	20.0	51.3	61.3	10.5	9.8	9.50	10.0	9.0
5	SHIELDEX	3.33 SC		1.35 oz/a	PRE	A		105	9.00	7.4	22.0	50.0	40.0	13.0	8.0	7.50	11.0	15.0
								204	5.50	7.6	20.0	30.0	25.0	11.0	13.0	14.00	11.0	12.0
								302	8.50	7.7	21.0	30.0	45.0	12.0	13.0	11.00	13.0	10.0
								404	7.00	7.8	23.0	30.0	30.0	12.0	12.0	19.00	11.0	16.0
								Mean =	7.50	7.6	21.5	35.0	35.0	12.0	11.5	12.88	11.5	13.3

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SOYBEAN RESPONSE TO HPPD HERBICIDES - 58 DAT

Trial ID: SB-02-23 Study Dir.: NICK SHAY
 Location: PONDER FARM Investigator: Eric P. Prostko

Crop Code		GLYMA	GLYMA	GLYMA						
Part Rated		AVG-HGT	PLOT, -	PLOT, -						
Rating Data Type		INCHES	YIELD	YIELD						
Rating Unit			LBS/PLOT	BU/A						
Rating Date		Jul-19-23	Nov-1-23	Nov-1-23						
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Grow Stg	Appl Code	Plot	21	22	23
1	NTC						101	19.6	11.90	95
							203	16.2	13.10	105
							305	20.0	13.60	109
							403	19.6	12.50	100
							Mean =	18.9	12.78	102
2	CALLISTO	4 SC		3.0 oz/a	PRE	A	102	19.6	7.60	61
							201	20.6	12.80	102
							303	19.2	14.00	112
							402	19.6	13.20	105
							Mean =	19.8	11.90	95
3	LAUDIS	3.5 SC		3.0 oz/a	PRE	A	103	20.2	13.30	106
							205	19.2	12.50	100
							301	19.8	.	.
							405	22.4	11.90	95
							Mean =	20.4	12.57	100
4	IMPACT	2.8 SC		1.25 oz/a	PRE	A	104	8.8	0.00	0
							202	9.4	0.00	0
							304	8.6	0.00	0
							401	12.2	2.70	22
							Mean =	9.8	0.68	5
5	SHIELDDEX	3.33 SC		1.35 oz/a	PRE	A	105	10.9	4.90	39
							204	12.2	5.40	43
							302	11.8	6.30	50
							404	14.0	6.40	51
							Mean =	12.2	5.75	46

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SOYBEAN RESPONSE TO HPPD HERBICIDES - 58 DAT

Trial ID: SB-02-23 Study Dir.: NICK SHAY
Location: PONDER FARM Investigator: Eric P. Prostko

Rating Unit

% = PERCENT

In = INCH

ARM Action Codes

T2 = ([C7]+[C8]+[C9]+[C10]+[C11])/5

T3 = ([16]+[17]+[18]+[19]+[20])/5

TY1 = 7.98878161*[C22]