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Country: UNITED STATES OF AMERICA Discipline: HERBICIDE	Region: NJ Sequence: 401	Trial Use: Normal Year: 2011
Trial Id.: USNJ0H4012011	Master Protocol Id.:	Protocol Id.: HFM050B4-2011US Revision Date: MAR10
Trial Origin: IN-HOUSE TRIAL (SYNGENTA)	Licensee: Steve Mroczkiewicz	GEP: N
Title: Flexstar GT 3.5 - weed control programs for glyphosate resistant weeds in soybean (chlorimuron full rates)		

SITE AND DESIGN	
Plot Width: 10 Unit: FT	Plot Length: 30 Unit: FT Plot Area: 300.0 Unit: FT2 No Reps: 4 No Treats: 14
Site Description Event Date: 4-12-2011	Study Design: RACOBL
	Farm/Station Name: Throckmorton PAC
State/Province: IN	Farm Manager: Jay Young
Postal Code: 47909	Street: 8343 US 231 S
Cooperator Name: Dr. Bill Johnson	City+State/Prov: Lafayette, IN
	Postal Code: 47909
Test Facility: Purdue University	Country: UNITED STATES OF AMERICA
Soil Texture: SILT LOAM	Phone Number: 765-538-3422
Tillage Type: CONVENTIONAL-TILL	
Block Arrangement: BLOCK 2 ABOVE 1, 3 ABOVE 4, 2 BESIDE 3, 1 BESIDE 4, PLOTS SIDE BY SIDE	
Untreated Arrangement: RANDOMIZED ARRANGEMENT WITHIN TRIAL	

GENERAL TRIAL INFORMATION	
Initiation Date: 3-22-2011	Protocol Id. : HFM050B4-2011US
Title: Flexstar GT 3.5 - weed control programs for glyphosate resistant weeds in soybean (chlorimuron full rates)	Investigator: Steve Mroczkiewicz
Intl./Overall Protocol Owner : Don Porter	
Local Protocol Responsibility: Dain Bruns	Title: BR&D Scientist
	Affiliation: Syngenta

TRIAL STATUS	
1. Date: 3-22-2011	TRIAL STATUS: ESTABLISHED
Comment: Generated by ARM	

SEED DESCRIPTION	
1. Date: 4-12-2011	Area: Trial Crop: GLYCINE MAX Var: Asgrow AG2931

CROP OCCURRENCE	
	1.
Date:	4-12-2011
Area:	Trial
Crop:	SOYBEANS
Crop Code:	GLXMA
BBCH Scale:	BSOY
Variety:	Asgrow AG2931
Genetic Type A:	GLYPHOSATE-R

PEST OCCURRENCE					
	1.	2.	3.	4.	5.
Date:	6-6-2011	6-6-2011	6-6-2011	6-6-2011	6-21-2011
Area:	Trial	Trial	Trial	Trial	Trial
Pest:	SETARIA FABERI	AMBROSIA TRIFIDA	ABUTILON THEOPHRASTI TR	CHENOPODIUM ALBUM	IPOMOEA HEDERACEA
Pest Code:	SETFA	AMBTR	ABUTH	CHEAL	IPOHE
Stage Scale:	BGRM	BBCH	BBCH	BBCH	BDIC
OCCURRENCE TYPE:	OCCURRED	OCCURRED	OCCURRED	OCCURRED	OCCURRED

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	6.	7.	8.
Date:	6-21-2011	6-21-2011	6-6-2011
Area:	Trial	Trial	Trial
Pest:	AMBROSIA TRIFIDA	ABUTILON THEOPHRASTI TR	AMARANTHUS RETROFLEXUS
Pest Code:	AMBTR	ABUTH	AMARE
Stage Scale:	BBCH	BBCH	BDWE
OCCURRENCE TYPE:	OCCURRED	OCCURRED	OCCURRED

CROP DEVELOPMENT

	1.	2.	3.
Date:	5-11-2011	6-6-2011	6-21-2011
Crop:	1 SOYBEANS	1 SOYBEANS	1 SOYBEANS
Crop Code:	GLXMA	GLXMA	GLXMA
BBCH Scale:	BSOY	BSOY	BSOY
Variety:	Asgrow AG2931	Asgrow AG2931	Asgrow AG2931
Dev. Stage Majority:		22	24
Height Min, Max, Unit:		3.0 4.0 IN	

Tree/Crop Row Volume Information			
Height Total (m):		0.09	

PEST DEVELOPMENT

	1.	2.	3.	4.	5.
Date:	6-6-2011	6-6-2011	6-6-2011	6-6-2011	6-21-2011
Pest:	1 SETARIA FABERI	2 AMBROSIA TRIFIDA	3 ABUTILON THEOPHRASTI TR	4 CHENOPODIUM ALBUM	5 IPOMOEA HEDERACEA
Pest Code:	SETFA	AMBTR	ABUTH	CHEAL	IPOHE
Stage Scale:	BGRM	BBCH	BBCH	BBCH	BDIC
25.0	11.0	5.0	4.0	2.0	2.0
Unit:	PER SQUARE YARD	PER SQUARE YARD	PER SQUARE YARD	PER SQUARE YARD	PER SQUARE YARD
Height Min, Max, Unit:	1.0 7.0 IN	3.0 6.0 IN	2.0 4.0 IN	0.5 1.0 IN	3.0 IN

	6.	7.	8.
Date:	6-21-2011	6-21-2011	6-6-2011
Pest:	6 AMBROSIA TRIFIDA	7 ABUTILON THEOPHRASTI TR	8 AMARANTHUS RETROFLEXUS
Pest Code:	AMBTR	ABUTH	AMARE
Stage Scale:	BBCH	BBCH	BDWE
25.0	1.0		
Unit:	PER SQUARE YARD	PER SQUARE YARD	
Height Min, Max, Unit:	4.0 IN	4.0 IN	

WEATHER DESCRIPTION

1.	Date: 5-11-2	Air Temp. Min: 81.0	Max: 81.0	Unit: F	% Rel. Humidity Min: 65.0	Max: 65.0
	Wind Velocity Min: 2.0	Max: 2.0	Unit: MPH	Wind Direction: E		
2.	Date: 6-6-20	Air Temp. Min: 86.0	Max: 86.0	Unit: F	% Rel. Humidity Min: 54.0	Max: 54.0
	Wind Velocity Min: 5.5	Max: 5.5	Unit: MPH	Wind Direction: SW		
3.	Date: 6-21-2	Air Temp. Min: 72.0	Max: 72.0	Unit: F	% Rel. Humidity Min: 72.0	Max: 72.0
	Wind Velocity Min: 7.0	Max: 7.0	Unit: MPH	Wind Direction: S		

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No.	Date
1.	4-12-2011

APPLICATION			
	A	B	C
Application Date/Time:	5-11-2011 12:00 AM	6-6-2011 10:58 AM	6-21-2011 12:00 AM
Applied By:	MH	JR	
Target (Crop):	1 GLXMA	1 GLXMA	1 GLXMA
Variety (Crop):	Asgrow AG2931	Asgrow AG2931	Asgrow AG2931
Weather:	1	2	3
Application Equipment:	BACSPR	BACSPR	BACSPR
Pressure, Unit:	17.0 PSI	17.0 PSI	17.0 PSI
Nozzle Type:	FLAFAN	FLAFAN	FLAFAN
Nozzle Description:	XR 110 02	XR 100 02	XR 110 02
Nozzle Spacing, Unit:	15.0 IN	15.0 IN	15.0 IN
Nozzles/Row:	8.0	8.0	8.0
Boom Length, Unit:	10.0 FT	10.0 FT	10.0 FT
Boom Height, Unit:	18.0 IN	18.0 IN	18.0 IN
Ground Speed, Unit:	3.0 MPH	3.0 MPH	3.0 MPH
Spray Volume, Unit:	15.0	15.0	15.0
Mix Size, Unit:	1.8	1.8	1.8
Dew Presence (Y/N):	Y	N	Y
Application Timing:	PREPRE	POSPOS	POSPOS
Applic. Placement:	BROSOI	BROFOL	BROFOL

1.

Soil Component:
Soil Element:

INOCULATION/INFESTATION

1.

Code	Comment
1.	

Area Name	Treatment Numbers in Area
1.	

INSTRUCTIONS

CROPS: SOYBEANS,

TARGETS: gly-R palmer pigweed, waterhemp, or giant ragweed

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OBJECTIVE(S):
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1. Evaluate Boundary, Valor XLT, Authority XL, and Envive PRE followed by Flexstar GT 3.5 at 1,400 and 2,100 g/ha for phytotoxicity and control of gly-R weed populations and compare to Valor XLT fb Roundup PowerMax + Warrant
2. Compare phytotoxicity and weed control from Boundary fb Flexstar GT 3.5 at 1,400 g/ha to Boundary fb Cobra at 175 g/ha + Roundup PowerMax and Boundary fb sequential Flexstar GT 3.5 applications at 1050 g/ha

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3. Evaluate phytotoxicity and Amaranthus weed control from Boundary fb Sequence fb Flexstar GT 3.5 at 1,400 g and compare to Valor XLT fb Roundup PowerMaxMax + Warrant

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CRITICAL PROTOCOL TASKS:
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- Flexstar GT 3.5 is a new formulation being introduced in 2011 and will replace Flexstar GT which will no longer be sold in the marketplace. Flexstar GT 3.5 is commonly applied at 3.5 pt/A (delivering 1.0 lb of glyphosate acid and 0.25 lb fomesafen), thus the 3.5 reference in the tradename.
- Please dispose of old Flexstar GT formulations (from 2009/2010) by using product in maintenance applications or return to local BR&D Scientist.
- Weed targets should be gly-R palmer pigweed, waterhemp or giant ragweed
- Note: Treatment 13 and 14 are split applications applied at timings 'B' and 'C'.
- The Roundup PowerMax rate is 1,120 g ae/ha (28 fl oz/A) to match the 1,120 g ae/ha glyphosate applied in 3.5 pt/A of Flexstar GT 3.5.

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EXPERIMENTAL DESIGN AND PLOT DIMENSIONS:
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RCBD with at least three (3) replications. Suggest 10 x 30 ft plots with the center two rows receiving the herbicide treatment.

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TREATMENT DETAILS:
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Application volume: 15 - 20 GPA

Application timings:
A = PRE

B = EPOST
- for AMASS, B = 1 - 2" tall
- for ragweed, B = 3 - 6" tall

C = POST
- for AMASS, C = 1 - 2" tall (i.e. 1 - 2" is max height of secondary AMASS flush that emerged after application B timing)
- for ragweed, C = 3 - 6" tall (i.e. 6" is max height of secondary AMBTR flush that emerged after application B timing)

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ASSESSMENT DETAILS:
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Rate soybean phytotoxicity (all plots at each requested timing):
- at application timing 'B' (i.e. did PREs injure soybean?)
- at application timing 'C'

Rate weed control (all plots at each requested timing):
- at application 'B' (do PREs differ in weed control?)
- 7 d after 'C'
- 21 d after 'C'

Yield not requested, trial can be terminated after last weed control evaluation.

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REPORT DATA BY: 9/13/2011
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Begin requesting data by Sept 1, so data can uploaded (via indexers, if needed) to the GDB by mid-Oct. Data management and FPC to sort and summarize data during last 2 weeks of October in preparation for the Results Meeting.

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OTHER NOTES:
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CROP DESTRUCT:
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Plots, and/or harvested material from plots, from this trial must be destroyed to ensure that no plant material enters the food or feed system. Any exception can only be granted, in writing, from Syngenta Crop Protection.

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CONTRACT RESEARCH ORGANIZATIONS (NOT UNIVERSITIES):
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The following statement only applies to Contract Research Organizations. The research contemplated herein shall be performed by Researcher, as appropriate, in accordance with the terms and conditions set forth in the associated Agreement for Contract Research between Researcher and Syngenta.

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RECORD CHANGES MADE AFTER FINAL POSTING HERE:
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CONFIDENTIAL SECTION: PLEASE DELETE SECTIONS BELOW FOR EXTERNAL USE

PROPOSED TRIAL LOCATIONS: 1-AR-Black, 1-OH-Bruns, 1-IL-Cully, 1-TN-Holloway, 1-WI-Krumm, 1-MN-Lins, 1-LA-Martin, 1-NC-Mascarenhas, 2-GA-McLean, 1-IA-Moses, 1-IN-Mroczkiewicz, 1-MO-Nichols, 1-MS-Sanders, 1-IL-Thomas
DM CONTACT: T. Beckett
FPC CONTACT: Bruns Dain
PRIMARY REVIEWERS: Cully Scott, Holloway James, Kitt Mark, Lins Ryan, Miller Brett, Porter Don,
FEEDBACK RECEIVED FROM: Cully Scott, Holloway James, Kitt Mark, Lins Ryan, Miller Brett, Porter Don

LEVEL OF SECRECY AGREEMENT REQUIRED (UNIVERSITY):
No secrecy agreement needed (normal "Gift")

SYNGENTA CONFIDENTIAL INFORMATION (DESIGN CODES):
A12831A Boundary 6.5EC
A17898A Flexstar GT 3.5
A13886E Sequence
EXC684 Valor SX
EXC3506 Valor XLT
A17694A Authority MTZ
??? Authority XL (no product in SOLO as of Mar 7)
A17687A Envive
A13270M Roundup PowerMax
A17660A Cobra
A18560A Warrant
CA4986A MSO
??? AMS

For WI, IN, and OH (i.e. ragweed locations), treatment 14 can be substituted with a local standard or dropped to save \$.

Weed targets - as resourced on Jan 20

Sorted by Scientist:

Black David AMAPA-GR
Bruns Dain AMBTR gly-R
Cully Scott AMATA
Holloway James GR-AMAPA
Krumm Jeffrey AMBEL
Lins Ryan Daniel AMBTR gly-R
Martin Scott AMAPA
Mascarenhas Victor GR-AMAPA
McLean Henry GR-AMAPA
McLean Henry AMAPA-GR
Moses Adrian AMATA-GR
Mroczkiewicz Steve AMBTR
Nichols Craig AMATA-GR
Sanders Jason GR-AMAPA
Thomas Dave AMATA-GR

Sorted by weed:

Martin Scott AMAPA
Black David AMAPA-GR
McLean Henry AMAPA-GR
Holloway James AMAPA-GR

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Mascarenhas Victor AMAPA-GR
 McLean Henry AMAPA-GR
 Sanders Jason AMAPA-GR
 Cully Scott AMATA
 Moses Adrian AMATA-GR
 Nichols Craig AMATA-GR
 Thomas Dave AMATA-GR
 Krumm Jeffrey AMBEL
 Mroczkiewicz Steve AMBTR
 Bruns Dain AMBTR-GR
 Lins Ryan Daniel AMBTR-GR

Project rationale:

Formulation and adjuvant evaluation has been the main emphasis of the Flexstar GT project since it began in 2007 and will culminate in the launch of Flexstar GT 3.5 in 2011. Weeds with glyphosate resistance continue to increase and will be a key target for Flexstar GT 3.5 marketing. The long-term success of Flexstar GT 3.5 will involve proper stewardship and product positioning. Currently, most Universities are recommending a PRE followed-by POST weed management strategy for gly-R weeds like Palmer pigweed, tall waterhemp and giant ragweed. The global database has a limited amount of data with older Flexstar GT formulations following a PRE and even less with the new Flexstar GT 3.5, thus the reason for this protocol.

*2011 Protocol Instructions Template

Assessment Tasks																
No.	Timing ID	SE Name	SE Description	Part Assess	Assess Data Type	Assess Unit	Samples per 1 Collect.basis	Sample Unit	Coll. Basis	Basis Unit	Reporting Basis	Reporting Basis Unit	Asmt Type	Asmt Sub Type	Calc Type	Scale Type
1.	1	ZUSX001	%Phyto-General	PLANT	PHYGEN	%	1	PLOT	1	PLOT	1	PLOT	NOR	RAW	NC	S
2.	2	ZUSW001	%Control	PLANT	CONTRO	%	1	PLOT	1	PLOT	1	PLOT	NOR	RAW	NC	S
No.	Timing ID															
1.	1															
2.	2															

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Country: UNITED STATES OF AMERICA Discipline: HERBICIDE	Region: NJ Sequence: 401	Trial Use: Normal Year: 2011	Protocol Id.: HFM050B4-2011US Master Protocol Id.:
Trial Id.: USNJ0H4012011		Revision Date: MAR10	
Trial Origin: IN-HOUSE TRIAL (SYNGENTA)		Licensee: Steve Mroczkiewicz	GEP: N
Title: Flexstar GT 3.5 - weed control programs for glyphosate resistant weeds in soybean (chlorimuron full rates)			

Assessment Date	6-6-2011 12:00 AM	6-6-2011 12:00 AM	6-6-2011 12:00 AM	6-6-2011 12:00 AM	6-21-2011 12:00 AM
Assessed By	MW	MW	MW	MW	
Crop Code	1 GLXMA	1 GLXMA	1 GLXMA	1 GLXMA	1 GLXMA
Crop Variety	Asgrow AG2931	Asgrow AG2931	Asgrow AG2931	Asgrow AG2931	Asgrow AG2931
Pest Code	1 SETFA	2 AMBTR	3 ABUTH	8 AMARE	1 SETFA
SE Group No.	1	2	3	4	5
Assessment Data Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO
Assessment Unit	%UNCK				
Assessment Type, Sub-Type	NOR RAW	NOR RAW	NOR RAW	NOR RAW	NOR RAW
Number of Subsamples	1	1	1	1	1
Transformation Code	0	0	0	0	0
Days After Last Application	26	26	26	26	0
Trt Treatment/Product Name	Product/AI Rate	Product/AI Rate	Product/AI Rate	Product/AI Rate	Product/AI Rate
	Unit	Unit	Unit	Unit	Unit
	Code	Code	Code	Code	Code
	1	2	3	4	5
1 CHECK UNTREATED	0.0 d	0.0 d	0.0 b	0.0 b	0.0 d
2 BOUNDARY 6.5 EC AMMONIUM SULFATE TOUCHDOWN TOTAL 4.17 SL	1640.0 gai/ha 2.5 %v/v 1120.0 gae/ha B	96.0 a	17.5 bcd	99.0 a	99.0 a
3 BOUNDARY 6.5 EC AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	1640.0 gai/ha 2.5 %v/v 1400.0 gae/ha 1.0 %v/v B	91.8 a	10.0 cd	96.8 a	99.0 a
4 BOUNDARY 6.5 EC AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	1640.0 gai/ha 2.5 %v/v 2100.0 gae/ha 1.0 %v/v B	95.3 a	45.0 abc	99.0 a	99.0 a
5 VALOR XLT 40.3 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	85.0 gai/ha 2.5 %v/v 1400.0 gae/ha 1.0 %v/v B	93.8 a	55.0 abc	99.0 a	99.0 a
6 VALOR XLT 40.3 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	85.0 gai/ha 2.5 %v/v 2100.0 gae/ha 1.0 %v/v B	91.3 a	70.0 a	99.0 a	99.0 a
7 AUTHORITY XL 70 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	196.0 gai/ha 2.5 %v/v 1400.0 gae/ha 1.0 %v/v B	65.0 b	37.5 a-d	99.0 a	99.0 a
8 AUTHORITY XL 70 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	196.0 gai/ha 2.5 %v/v 2100.0 gae/ha 1.0 %v/v B	47.5 c	52.5 abc	99.0 a	99.0 a
9 ENVIVE 41.3 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	101.0 gai/ha 2.5 %v/v 1400.0 gae/ha 1.0 %v/v B	88.8 a	45.0 abc	99.0 a	99.0 a
10 ENVIVE 41.3 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	101.0 gai/ha 2.5 %v/v 2100.0 gae/ha 1.0 %v/v B	88.8 a	62.5 ab	99.0 a	99.0 a

Means followed by same letter do not significantly differ (P= .05, Student-Newman-Keuls)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Assessment Date	6-6-2011 12:00 AM			6-6-2011 12:00 AM			6-6-2011 12:00 AM			6-6-2011 12:00 AM			6-21-2011 12:00 AM		
Assessed By	MW			MW			MW			MW			1 GLXMA		
Crop Code	1 GLXMA			1 GLXMA			1 GLXMA			1 GLXMA			1 GLXMA		
Crop Variety	Asgrow AG2931			Asgrow AG2931			Asgrow AG2931			Asgrow AG2931			Asgrow AG2931		
Pest Code	1 SETFA			2 AMBTR			3 ABUTH			8 AMARE			1 SETFA		
SE Group No.	1			2			3			4			5		
Assessment Data Type	CONTRO			CONTRO			CONTRO			CONTRO			CONTRO		
Assessment Unit	%UNCK			NOR RAW			NOR RAW			NOR RAW			NOR RAW		
Assessment Type, Sub-Type	NOR RAW			NOR RAW			NOR RAW			NOR RAW			NOR RAW		
Number of Subsamples	1			1			1			1			1		
Transformation Code	0			0			0			0			0		
Days After Last Application	26			26			26			26			0		
Trt Treatment/Product Name	Product/AI Rate	Product/AI Rate Unit	Applic. Code	1	2	3	4	5							
11 BOUNDARY 6.5 EC	1640.0	gai/ha	A	96.0 a	23.8 a-d	99.0 a	99.0 a	97.0 ab							
AMMONIUM SULFATE	2.5	%v/v	B												
COBRA 2 EC	175.0	gai/ha	B												
ROUNDUP POWERMAX 4.5 SL	1120.0	gae/ha	B												
COC	1.0	%v/v	B												
12 VALOR XLT 40.3 WG	85.0	gai/ha	A	87.5 a	55.0 abc	99.0 a	99.0 a	99.0 a							
AMMONIUM SULFATE	2.5	%v/v	B												
WARRANT 3 CS	1260.0	gai/ha	B												
ROUNDUP POWERMAX 4.5 SL	1120.0	gae/ha	B												
13 BOUNDARY 6.5 EC	1640.0	gai/ha	A	94.3 a	42.5 abc	99.0 a	99.0 a	99.0 a							
AMMONIUM SULFATE	2.5	%v/v	B												
FLEXSTAR GT 3.5 SL	1050.0	gae/ha	B												
MSO	1.0	%v/v	B												
AMMONIUM SULFATE	2.5	%v/v	C												
FLEXSTAR GT 3.5 SL	1050.0	gae/ha	C												
MSO	1.0	%v/v	C												
14 BOUNDARY 6.5 EC	1640.0	gai/ha	A	96.0 a	40.0 a-d	96.8 a	99.0 a	99.0 a							
AMMONIUM SULFATE	2.5	%v/v	B												
SEQUENCE 5.25 EW	1840.0	gae/ha	B												
AMMONIUM SULFATE	2.5	%v/v	C												
FLEXSTAR GT 3.5 SL	1050.0	gae/ha	C												
MSO	1.0	%v/v	C												
LSD (P=.05)				11.66	27.54	2.46	0.00	1.98							
Standard Deviation				8.16	19.27	1.72	0.00	1.39							
CV				10.1	48.51	1.88	0.0	1.53							
Bartlett's X2				57.503	11.252	0.0	0.0	2.406							
P(Bartlett's X2)				0.001*	0.507	.	.	0.879							
Replicate F				1.951	2.023	0.650	0.000	3.285							
Replicate Prob(F)				0.1374	0.1265	0.5877	1.0000	0.0307							
Treatment F				44.065	4.426	938.100	0.000	1421.037							
Treatment Prob(F)				0.0001	0.0001	0.0001	1.0000	0.0001							

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

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Assessment Date	6-21-2011 12:00 AM	6-21-2011 12:00 AM	6-21-2011 12:00 AM	6-21-2011 12:00 AM	6-28-2011 12:00 AM			
Assessed By								
Crop Code	1 GLXMA	1 GLXMA	1 GLXMA	1 GLXMA	1 GLXMA			
Crop Variety	Asgrow AG2931	Asgrow AG2931	Asgrow AG2931	Asgrow AG2931	Asgrow AG2931			
Pest Code	2 AMBTR	3 ABUTH	4 CHEAL	5 IPOHE				
SE Group No.	6	7	8	9	10			
Assessment Data Type	CONTRO	CONTRO	CONTRO	CONTRO	PHYGEN			
Assessment Unit								
Assessment Type, Sub-Type	NOR RAW	NOR RAW	NOR RAW	NOR RAW	NOR RAW			
Number of Subsamples	1	1	1	1	1			
Transformation Code	0	0	0	0	0			
Days After Last Application	0	0	0	0	7			
Trt Treatment/Product Name	Product/AI Rate	Product/AI Rate Unit	Applic. Code	6	7	8	9	10
1 CHECK UNTREATED				0.0 e	0.0 b	0.0 b	0.0 b	0.0 d
2 BOUNDARY 6.5 EC AMMONIUM SULFATE TOUCHDOWN TOTAL 4.17 SL	1640.0 gai/ha 2.5 %v/v	gae/ha	A B	78.8 c	93.5 a	99.0 a	98.0 a	3.8 cd
3 BOUNDARY 6.5 EC AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	1640.0 gai/ha 2.5 %v/v 1400.0 gae/ha 1.0 %v/v	gae/ha	A B B	87.5 abc	99.0 a	99.0 a	98.0 a	7.5 bcd
4 BOUNDARY 6.5 EC AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	1640.0 gai/ha 2.5 %v/v 2100.0 gae/ha 1.0 %v/v	gae/ha	A B B	88.8 abc	99.0 a	99.0 a	95.5 a	7.5 bcd
5 VALOR XLT 40.3 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	85.0 gai/ha 2.5 %v/v 1400.0 gae/ha 1.0 %v/v	gae/ha	A B B	82.5 abc	99.0 a	99.0 a	99.0 a	12.5 bc
6 VALOR XLT 40.3 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	85.0 gai/ha 2.5 %v/v 2100.0 gae/ha 1.0 %v/v	gae/ha	A B B	88.8 abc	99.0 a	99.0 a	99.0 a	13.8 b
7 AUTHORITY XL 70 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	196.0 gai/ha 2.5 %v/v 1400.0 gae/ha 1.0 %v/v	gae/ha	A B B	86.3 abc	97.0 a	99.0 a	99.0 a	7.5 bcd
8 AUTHORITY XL 70 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	196.0 gai/ha 2.5 %v/v 2100.0 gae/ha 1.0 %v/v	gae/ha	A B B	93.5 a	95.8 a	99.0 a	99.0 a	6.3 bcd
9 ENVIVE 41.3 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	101.0 gai/ha 2.5 %v/v 1400.0 gae/ha 1.0 %v/v	gae/ha	A B B	80.0 bc	99.0 a	99.0 a	99.0 a	11.3 bc
10 ENVIVE 41.3 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	101.0 gai/ha 2.5 %v/v 2100.0 gae/ha 1.0 %v/v	gae/ha	A B B	91.3 ab	99.0 a	99.0 a	99.0 a	11.8 bc

Means followed by same letter do not significantly differ (P= .05, Student-Newman-Keuls)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Purdue University

Assessment Date	6-21-2011 12:00 AM			6-21-2011 12:00 AM			6-21-2011 12:00 AM			6-21-2011 12:00 AM			6-28-2011 12:00 AM		
Assessed By	1 GLXMA			1 GLXMA			1 GLXMA			1 GLXMA			1 GLXMA		
Crop Code	Asgrow AG2931			Asgrow AG2931			Asgrow AG2931			Asgrow AG2931			Asgrow AG2931		
Crop Variety	2 AMBTR			3 ABUTH			4 CHEAL			5 IPOHE					
Pest Code															
SE Group No.	6			7			8			9			10		
Assessment Data Type	CONTRO			CONTRO			CONTRO			CONTRO			PHYGEN		
Assessment Unit	NOR RAW			NOR RAW			NOR RAW			NOR RAW			NOR RAW		
Assessment Type, Sub-Type															
Number of Subsamples	1			1			1			1			1		
Transformation Code	0			0			0			0			0		
Days After Last Application	0			0			0			0			7		
Trt Treatment/Product Name	Product/AI Rate	Product/AI Rate Unit	Applic. Code	6	7	8	9	10							
11 BOUNDARY 6.5 EC	1640.0 gai/ha		A	88.8 abc	99.0 a	99.0 a	99.0 a	10.0 bc							
AMMONIUM SULFATE	2.5 %v/v		B												
COBRA 2 EC	175.0 gai/ha		B												
ROUNDUP POWERMAX 4.5 SL	1120.0 gae/ha		B												
COC	1.0 %v/v		B												
12 VALOR XLT 40.3 WG	85.0 gai/ha		A	87.3 abc	99.0 a	99.0 a	99.0 a	15.0 b							
AMMONIUM SULFATE	2.5 %v/v		B												
WARRANT 3 CS	1260.0 gai/ha		B												
ROUNDUP POWERMAX 4.5 SL	1120.0 gae/ha		B												
13 BOUNDARY 6.5 EC	1640.0 gai/ha		A	85.0 abc	93.3 a	99.0 a	89.3 a	30.0 a							
AMMONIUM SULFATE	2.5 %v/v		B												
FLEXSTAR GT 3.5 SL	1050.0 gae/ha		B												
MSO	1.0 %v/v		B												
AMMONIUM SULFATE	2.5 %v/v		C												
FLEXSTAR GT 3.5 SL	1050.0 gae/ha		C												
MSO	1.0 %v/v		C												
14 BOUNDARY 6.5 EC	1640.0 gai/ha		A	70.0 d	99.0 a	99.0 a	99.0 a	31.3 a							
AMMONIUM SULFATE	2.5 %v/v		B												
SEQUENCE 5.25 EW	1840.0 gae/ha		B												
AMMONIUM SULFATE	2.5 %v/v		C												
FLEXSTAR GT 3.5 SL	1050.0 gae/ha		C												
MSO	1.0 %v/v		C												
LSD (P=.05)				7.34	3.73	0.00	8.04	5.41							
Standard Deviation				5.14	2.61	0.00	5.63	3.79							
CV				6.49	2.88	0.0	6.19	31.56							
Bartlett's X2				7.577	3.181	0.0	17.98	8.491							
P(Bartlett's X2)				0.67	0.365	.	0.001*	0.581							
Replicate F				1.150	0.311	0.000	0.808	1.192							
Replicate Prob(F)				0.3410	0.8176	1.0000	0.4971	0.3253							
Treatment F				84.058	402.461	0.000	87.236	21.832							
Treatment Prob(F)				0.0001	0.0001	1.0000	0.0001	0.0001							

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Purdue University

Assessment Date	6-28-2011 12:00 AM			6-28-2011 12:00 AM			6-28-2011 12:00 AM			7-12-2011 12:00 AM			7-12-2011 12:00 AM		
Assessed By										CB/RH			CB/RH		
Crop Code	1 GLXMA			1 GLXMA			1 GLXMA			1 GLXMA			1 GLXMA		
Crop Variety	Asgrow AG2931			Asgrow AG2931			Asgrow AG2931			Asgrow AG2931			Asgrow AG2931		
Pest Code	1 SETFA			2 AMBTR			7 ABUTH			2 AMBTR			1 SETFA		
SE Group No.	11			12			13			14			15		
Assessment Data Type	CONTRO			CONTRO			CONTRO			CONTRO			CONTRO		
Assessment Unit	NOR RAW			NOR RAW			NOR RAW			NOR RAW			NOR RAW		
Assessment Type, Sub-Type															
Number of Subsamples	1			1			1			1			1		
Transformation Code	0			0			0			0			0		
Days After Last Application	7			7			7			21			21		
Trt Treatment/Product Name	Product/AI Rate	Product/AI Rate Unit	Applic. Code	11	12	13	14	15							
1 CHECK UNTREATED				0.0 c	0.0 c	0.0 c	0.0 f	0.0 b							
2 BOUNDARY 6.5 EC AMMONIUM SULFATE TOUCHDOWN TOTAL 4.17 SL	1640.0 gai/ha 2.5 %v/v	gae/ha	A B	99.5 a	83.0 ab	88.8 b	91.5 cde	100.0 a							
3 BOUNDARY 6.5 EC AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	1640.0 gai/ha 2.5 %v/v 1400.0 gae/ha 1.0 %v/v	gae/ha	A B B B	99.5 a	82.0 ab	97.0 a	92.3 cd	100.0 a							
4 BOUNDARY 6.5 EC AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	1640.0 gai/ha 2.5 %v/v 2100.0 gae/ha 1.0 %v/v	gae/ha	A B B B	98.3 a	94.0 ab	100.0 a	95.5 abc	100.0 a							
5 VALOR XLT 40.3 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	85.0 gai/ha 2.5 %v/v 1400.0 gae/ha 1.0 %v/v	gae/ha	A B B B	98.5 a	89.0 ab	99.3 a	93.5 cd	100.0 a							
6 VALOR XLT 40.3 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	85.0 gai/ha 2.5 %v/v 2100.0 gae/ha 1.0 %v/v	gae/ha	A B B B	96.3 a	92.5 ab	96.8 a	96.3 abc	99.3 a							
7 AUTHORITY XL 70 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	196.0 gai/ha 2.5 %v/v 1400.0 gae/ha 1.0 %v/v	gae/ha	A B B B	97.3 a	86.3 ab	99.5 a	94.5 bc	100.0 a							
8 AUTHORITY XL 70 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	196.0 gai/ha 2.5 %v/v 2100.0 gae/ha 1.0 %v/v	gae/ha	A B B B	98.0 a	95.0 ab	100.0 a	98.5 ab	100.0 a							
9 ENVIVE 41.3 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	101.0 gai/ha 2.5 %v/v 1400.0 gae/ha 1.0 %v/v	gae/ha	A B B B	92.0 b	77.5 b	98.8 a	89.5 de	100.0 a							
10 ENVIVE 41.3 WG AMMONIUM SULFATE FLEXSTAR GT 3.5 SL MSO	101.0 gai/ha 2.5 %v/v 2100.0 gae/ha 1.0 %v/v	gae/ha	A B B B	97.0 a	93.8 ab	99.0 a	94.0 bcd	100.0 a							

Means followed by same letter do not significantly differ (P= .05, Student-Newman-Keuls)
 Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Purdue University

Assessment Date	6-28-2011 12:00 AM	6-28-2011 12:00 AM	6-28-2011 12:00 AM	7-12-2011 12:00 AM	7-12-2011 12:00 AM			
Assessed By				CB/RH	CB/RH			
Crop Code	1 GLXMA	1 GLXMA	1 GLXMA	1 GLXMA	1 GLXMA			
Crop Variety	Asgrow AG2931	Asgrow AG2931	Asgrow AG2931	Asgrow AG2931	Asgrow AG2931			
Pest Code	1 SETFA	2 AMBTR	7 ABUTH	2 AMBTR	1 SETFA			
SE Group No.	11	12	13	14	15			
Assessment Data Type	CONTRO	CONTRO	CONTRO	CONTRO	CONTRO			
Assessment Unit								
Assessment Type, Sub-Type	NOR RAW	NOR RAW	NOR RAW	NOR RAW	NOR RAW			
Number of Subsamples	1	1	1	1	1			
Transformation Code	0	0	0	0	0			
Days After Last Application	7	7	7	21	21			
Trt Treatment/Product Name	Product/AI Rate	Product/AI Rate Unit	Applic. Code	11	12	13	14	15
11 BOUNDARY 6.5 EC	1640.0 gai/ha	A		99.3 a	86.3 ab	99.8 a	94.5 bc	100.0 a
AMMONIUM SULFATE	2.5 %v/v	B						
COBRA 2 EC	175.0 gai/ha	B						
ROUNDUP POWERMAX 4.5 SL	1120.0 gae/ha	B						
COC	1.0 %v/v	B						
12 VALOR XLT 40.3 WG	85.0 gai/ha	A		99.5 a	83.8 ab	100.0 a	87.8 e	99.3 a
AMMONIUM SULFATE	2.5 %v/v	B						
WARRANT 3 CS	1260.0 gai/ha	B						
ROUNDUP POWERMAX 4.5 SL	1120.0 gae/ha	B						
13 BOUNDARY 6.5 EC	1640.0 gai/ha	A		100.0 a	99.8 a	100.0 a	100.0 a	100.0 a
AMMONIUM SULFATE	2.5 %v/v	B						
FLEXSTAR GT 3.5 SL	1050.0 gae/ha	B						
MSO	1.0 %v/v	B						
AMMONIUM SULFATE	2.5 %v/v	C						
FLEXSTAR GT 3.5 SL	1050.0 gae/ha	C						
MSO	1.0 %v/v	C						
14 BOUNDARY 6.5 EC	1640.0 gai/ha	A		99.5 a	100.0 a	100.0 a	100.0 a	100.0 a
AMMONIUM SULFATE	2.5 %v/v	B						
SEQUENCE 5.25 EW	1840.0 gae/ha	B						
AMMONIUM SULFATE	2.5 %v/v	C						
FLEXSTAR GT 3.5 SL	1050.0 gae/ha	C						
MSO	1.0 %v/v	C						
LSD (P=.05)				3.33	11.29	5.58	3.20	0.78
Standard Deviation				2.33	7.90	3.90	2.24	0.54
CV				2.56	9.51	4.28	2.55	0.59
Bartlett's X2				31.658	29.313	42.331	13.519	0.0
P(Bartlett's X2)				0.001*	0.002*	0.001*	0.196	.
Replicate F				1.477	3.159	1.925	2.379	2.167
Replicate Prob(F)				0.2359	0.0353	0.1415	0.0845	0.1074
Treatment F				508.501	39.555	183.612	518.634	9608.408
Treatment Prob(F)				0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, Student-Newman-Keuls)
Mean comparisons performed only when AOV Treatment P(F) is significant at mean comparison OSL.

Purdue University

Country: UNITED STATES OF AMERICA Region: NJ Trial Use: Normal
 Discipline: HERBICIDE Sequence: 401 Year: 2011
 Trial Id.: USNJ0H4012011 Master Protocol Id.: HFM050B4-2011US Revision Date: MAR10

Trial Origin: IN-HOUSE TRIAL (SYNGENTA)

Licensee: Steve Mroczkiewicz

GEP: N

Title: Flexstar GT 3.5 - weed control programs for glyphosate resistant weeds in soybean (chlorimuron full rates)

T62, T60, 1, GLXMA, Asgrow AG2931, , = 1

T73, T70, 1, SETFA, , , = 1

T74, T72, 2, AMBTR, , , = 2

T81, T76, 3, ABUTH, , , = 3

T215, T214, 8, AMARE, , , = 8

T84, T83, 4, CHEAL, , , = 4

T163, T143, 5, IPOHE, , , = 5

T208, T207, 7, ABUTH, , , = 7

5260, CONTRO = CONTROL

, CONTRO = CONTROL

5315, PHYGEN = PHYTOTOXICITY - GENERAL

1224, %UNCK = PERCENT OF UNTREATED CHECK

Assessment Type. Sub-Type

NOR = NORMAL

RAW = RAW DATA

Transformation Code

U = No Transformation