

Southern Illinois University

Matador and Top Gun Evaluation in Soybean.

Trial ID: 12-DSO-Matador
 Location: De Soto, IL

Investigator: Bryan Young

General Trial Information	
Study Director: Bryan Young	Title: Professor
Investigator: Bryan Young	
Trial Status: F - one-year/final	
Initiation Date: 4-29-12	
Trial Location	
City: De Soto	
State/Prov.: IL	
Postal Code: 62924	
Country: USA	

Objectives: Compare Matador/Top Gun to competitive preemergence herbicides for control of waterhemp in soybean.

Personnel	
Study Director: Bryan Young	Title: Professor
Investigator: Bryan Young	
Affiliation: Southern Illinois University	
Address: 1205 Lincoln Drive - AG 176 - MC 4415	
Location: Carbondale IL	
Postal Code: 62901	E-mail: bgyoung@siu.edu
Phone No.: 618-453-7679	Mobile No.: 618-713-6471

Crop Description	
Crop 1: GLXMA Glycine max Soybean	Description: RR
Variety: AG 4005	Planting Date: 4-29-12
BCH Scale: BSOY	Rate, Unit: 165000 S/A
Planting Method: SEEDED Seeded	
Depth, Unit: 2 IN	
Row Spacing, Unit: 30 IN	

Pest Description	
Pest 1 Type: W	Code: AMATA - Amaranthus rudis Sauer
Common Name: waterhemp, common	
Description: glyphosate-resistant waterhemp	

Site and Design	
Plot Width, Unit: 10 FT	Site Type: FIELD field
Plot Length, Unit: 30 FT	
Plot Area, Unit: 300 FT2	Tillage Type: NOTILL no-till
Replications: 4	Study Design: RACOB L Randomized Complete Block (RCB)

No.	Previous Crop	Year
1.	ZEAMD	2011

Maintenance	
No.	Maintenance Treatment Name
1.	N 27 LB/A, P205 69 LB/A, K20 90 LB/A

Soil Description		
% Sand: 14	% OM: 2.12	
% Silt: 67	pH: 6.9	
% Clay: 19	CEC: 12.7	
Texture: SIL SILT LOAM		
Soil Name: OKAW		
Additional Measured Elements		
Element	Quantity	Unit
P1	112	LB/A
K	386	LB/A

Moisture and Weather Conditions	
Overall Moisture Conditions:	BELNOR below normal
Closest Weather Station: SOUTHERN IL AIRPORT (93810)	Distance, Unit: 1.5 MI

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No.	Date	Amount	Unit	Type	Type Description	Interval	Unit	Min Temp	Max Temp	Temp Unit
1.	4-10-12					7	DAY	30.1	79.2	F
2.	4-13-12	0.22	IN	RAIN	rain					
3.	4-15-12	0.47	IN	RAIN	rain					
4.	4-16-12	0.29	IN	RAIN	rain					
5.	4-17-12					7	DAY	36.7	75.6	F
6.	4-20-12	0.13	IN	RAIN	rain					
7.	4-22-12	0.13	IN	RAIN	rain					
8.	4-24-12					7	DAY	43.7	80.9	F
9.	4-27-12	0.04	IN	RAIN	rain					
10.	4-30-12	0.55	IN	RAIN	rain					
11.	5-1-12					7	DAY	59.1	91.3	F
12.	5-6-12	0.14	IN	RAIN	rain					
13.	5-7-12	0.07	IN	RAIN	rain					
14.	5-8-12					7	DAY	43.3	79	F
15.	5-15-12					7	DAY	44.9	89.1	F
16.	5-20-12	0.93	IN	RAIN	rain					
17.	5-22-12					7	DAY	45.5	92.8	F
18.	5-29-12					7	DAY	46.3	89.8	F
19.	5-30-12	0.02	IN	RAIN	rain					
20.	5-31-12	0.14	IN	RAIN	rain					
21.	6-4-12	0.49	IN	RAIN	rain					
22.	6-5-12					7	DAY	48.5	88.8	F
23.	6-11-12	0.21	IN	RAIN	rain					
24.	6-12-12					7	DAY	49.8	91.1	F
25.	6-17-12	0.03	IN	RAIN	rain					
26.	6-19-12					7	DAY	55.4	96.4	F
27.	6-26-12					7	DAY	51.1	105.4	F
28.	7-3-12					7	DAY	71.1	105	F
29.	7-8-12	0.07	IN	RAIN	rain					
30.	7-9-12	0.12	IN	RAIN	rain					
31.	7-10-12					7	DAY	65.9	93.9	F
32.	7-14-12	0.02	IN	RAIN	rain					
33.	7-17-12					7	DAY	60	102.3	F
34.	7-17-12	0.03	IN	RAIN	rain					
35.	7-24-12					7	DAY	64.1	102.1	F
36.	7-26-12	1.41	IN	RAIN	rain					
37.	7-29-12	0.24	IN	RAIN	rain					
38.	7-31-12					7	DAY	62.7	97.9	F
39.	8-2-12	0.08	IN	RAIN	rain					
40.	8-4-12	3.29	IN	RAIN	rain					
41.	8-5-12	0.21	IN	RAIN	rain					
42.	8-7-12					7	DAY	54.1	97.2	F

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Application Description			
	A	B	C
Application Date:	4-29-12	5-28-12	6-11-12
Time of Day:	13:30	7:00	9:00
Application Method:	Spray	Spray	Spray
Application Timing:	PRE	28DA-A	14DA-B
Application Placement:	BROFOL	BROFOL	BROFOL
Applied By:	RJW	LAH	RJW
Air Temperature, Unit:	82 F	77 F	80 F
% Relative Humidity:	52	82	78
Wind Velocity, Unit:	2 MPH	1 MPH	4 MPH
Wind Direction:	NE	S	S
Dew Presence (Y/N):	N no	N no	N no
Soil Temperature, Unit:	73 F	81 F	79 F
Soil Moisture:	NORMAL	BELNOR	BELNOR
% Cloud Cover:	100	10	100
Next Rain Occurred On:	4-30-12	5-30-12	6-11-12

Crop Stage At Each Application			
	A	B	C
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:	DESC	DESC	DESC
Stage Majority, Percent:	NA	V3	V6
Stage Minimum, Percent:		V2	V5
Stage Maximum, Percent:		V3	V6
Height, Unit:		6 IN	10 IN
Height Minimum, Maximum:		4 6	8 10

Pest Stage At Each Application			
	A	B	C
Pest 1 Code, Type, Scale:	AMATA W DESC	AMATA W DESC	AMATA W DESC
Stage Majority, Percent:	NA	8	12
Stage Minimum, Percent:		2	4
Stage Maximum, Percent:		12	18
Height, Unit:		3 IN	4 IN
Height Minimum, Maximum:		0.5 4	1 8
Density, Unit:		5 FT2	0.1 FT2

Application Equipment			
	A	B	C
Appl. Equipment:	C02 sprayer	C02 sprayer	C02 sprayer
Equipment Type:	BACSPR	BACSPR	BACSPR
Operation Pressure, Unit:	30 PSI	30 PSI	30 PSI
Nozzle Type:	XR	XR	XR
Nozzle Size:	8002	8002	8002
Boom Length, Unit:	6.67 FT	6.67 FT	6.67 FT
Spray Volume, Unit:	15 GPA	15 GPA	15 GPA

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Matador and Top Gun Evaluation in Soybean.

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Pest Code Crop Code Rating Date Rating Type Rating Unit Rating Timing Trt-Eval Interval								GLXMA 10-10-12 Moisture Percent	GLXMA 10-10-12 Yield bu/A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Other Rate	Other Unit	Growth Stage	Appl Code		
1	NONTREATED									16.3 ab	29 d
2	LI6407 MAKAZE WEATHER GUARD COMPLETE	100 3 100	SL SL SL	2 0.75 0.5	pt/a lb ae/a % v/v	2 32 2	pt/a fl oz/a qt/100 gal	PRE 28DA-A 28DA-A	A B B	15.3 bc	39 bc
3	LI6407 TOP GUN MAKAZE WEATHER GUARD COMPLETE	100 2 3 100	SL SC SL SL	2 0.25 0.75 0.5	pt/a lb ai/a lb ae/a % v/v	2 1 32 2	pt/a pt/a fl oz/a qt/100 gal	PRE PRE 28DA-A 28DA-A	A A B B	15.2 bcd	39 bc
4	LI6378 MAKAZE WEATHER GUARD COMPLETE	100 3 100	SL SL SL	3 0.75 0.5	pt/a lb ae/a % v/v	3 32 2	pt/a fl oz/a qt/100 gal	PRE 28DA-A 28DA-A	A B B	14.0 d	41 abc
5	LI6378 TOP GUN MAKAZE WEATHER GUARD COMPLETE	100 2 3 100	SL SC SL SL	1.5 0.25 0.75 0.5	pt/a lb ai/a lb ae/a % v/v	1.5 1 32 2	pt/a pt/a fl oz/a qt/100 gal	PRE PRE 28DA-A 28DA-A	A A B B	14.2 cd	41 abc
6	VALOR XLT VALOR SX CLASSIC MAKAZE WEATHER GUARD COMPLETE	40.3 51 25 3 100	WG WG WG SL SL			3 0.056 0.0194 0.75 0.5	oz/a lb ai/a lb ai/a lb ae/a % v/v	PRE PRE PRE 28DA-A 28DA-A	A A A B B	14.0 d	38 c
7	AUTHORITY MTZ MAKAZE WEATHER GUARD COMPLETE	45 3 100	WG SL SL	0.28 0.75 0.5	lb ai/a lb ae/a % v/v	10 32 2	oz/a fl oz/a qt/100 gal	PRE 28DA-A 28DA-A	A B B	14.3 cd	43 a
8	BOUNDARY MAKAZE WEATHER GUARD COMPLETE	6.5 3 100	EC SL SL	1.22 0.75 0.5	lb ai/a lb ae/a % v/v	1.5 32 2	pt/a fl oz/a qt/100 gal	PRE 28DA-A 28DA-A	A B B	14.2 cd	40 abc
9	PREFIX MAKAZE WEATHER GUARD COMPLETE	5.29 3 100	EC SL SL	1.32 0.75 0.5	lb ai/a lb ae/a % v/v	2 32 2	pt/a fl oz/a qt/100 gal	PRE 28DA-A 28DA-A	A B B	14.7 cd	38 c
10	SONIC MAKAZE WEATHER GUARD COMPLETE	70 3 100	WG SL SL	0.14 0.75 0.5	lb ai/a lb ae/a % v/v	3.2 32 2	oz/a fl oz/a qt/100 gal	PRE 28DA-A 28DA-A	A B B	14.4 cd	42 ab
11	MAKAZE WEATHER GUARD COMPLETE MAKAZE WEATHER GUARD COMPLETE	3 100 3 100	SL SL SL SL	0.75 0.5 0.75 0.5	lb ae/a % v/v lb ae/a % v/v	32 2 32 2	fl oz/a qt/100 gal fl oz/a qt/100 gal	28DA-A 28DA-A 14DA-B 14DA-B	B B C C	16.7 a	40 abc
LSD (P=.05)								1.23	3.2		
Standard Deviation								0.86	2.2		
CV								5.76	5.68		
Replicate F								5.151	6.535		
Replicate Prob(F)								0.0054	0.0016		
Treatment F								4.717	11.322		
Treatment Prob(F)								0.0004	0.0001		

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

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Pest Code	Crop Code	Rating Date	Rating Type	Rating Unit	Rating Timing	Trt-Eval Interval	GLXMA 5-20-12 Injury Percent	GLXMA 5-27-12 Injury Percent	GLXMA 6-11-12 Injury Percent	GLXMA 6-25-12 Injury Percent
							21 DA-A	28 DA-A	14 DA-B	28 DA-B
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	
1	NONTREATED									0 a
2	LI6407	100	SL	2 pt/a		2 pt/a		PRE	A	0 a
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B	0 a
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B	0 a
3	LI6407	100	SL	2 pt/a		2 pt/a		PRE	A	0 a
	TOP GUN	2	SC	0.25 lb ai/a		1 pt/a		PRE	A	0 a
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B	0 a
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B	0 a
4	LI6378	100	SL	3 pt/a		3 pt/a		PRE	A	0 a
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B	0 a
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B	0 a
5	LI6378	100	SL	1.5 pt/a		1.5 pt/a		PRE	A	0 a
	TOP GUN	2	SC	0.25 lb ai/a		1 pt/a		PRE	A	0 a
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B	0 a
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B	0 a
6	VALOR XLT	40.3	WG			3 oz/a		PRE	A	0 a
	VALOR SX	51	WG	0.056 lb ai/a				PRE	A	0 a
	CLASSIC	25	WG	0.0194 lb ai/a				PRE	A	0 a
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B	0 a
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B	0 a
7	AUTHORITY MTZ	45	WG	0.28 lb ai/a		10 oz/a		PRE	A	0 a
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B	0 a
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B	0 a
8	BOUNDARY	6.5	EC	1.22 lb ai/a		1.5 pt/a		PRE	A	0 a
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B	0 a
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B	0 a
9	PREFIX	5.29	EC	1.32 lb ai/a		2 pt/a		PRE	A	0 a
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B	0 a
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B	0 a
10	SONIC	70	WG	0.14 lb ai/a		3.2 oz/a		PRE	A	0 a
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B	0 a
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B	0 a
11	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B	0 a
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B	0 a
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		14DA-B	C	0 a
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		14DA-B	C	0 a
LSD (P=.05)							0.0	0.0	0.0	0.0
Standard Deviation							0.0	0.0	0.0	0.0
CV							0.0	0.0	0.0	0.0
Replicate F							0.000	0.000	0.000	0.000
Replicate Prob(F)							1.0000	1.0000	1.0000	1.0000
Treatment F							0.000	0.000	0.000	0.000
Treatment Prob(F)							1.0000	1.0000	1.0000	1.0000

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Pest Code							AMATA-HR	AMATA-HR	AMATA-HR	AMATA-HR			
Crop Code							5-20-12	5-27-12	6-11-12	6-25-12			
Rating Date							Control	Control	Control	Control			
Rating Type							Percent	Percent	Percent	Percent			
Rating Unit							0 DA-C	14 DA-B	14 DA-B	14 DA-B			
Rating Timing							21 DA-A	28 DA-A	14 DA-B	28 DA-B			
Trt-Eval Interval													
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code				
1	NONTREATED									0 c	0 c	0 c	0 c
2	LI6407	100	SL	2 pt/a		2 pt/a		PRE	A	99 a	95 b	97 a	96 a
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B				
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B				
3	LI6407	100	SL	2 pt/a		2 pt/a		PRE	A	99 a	98 a	98 a	97 a
	TOP GUN	2	SC	0.25 lb ai/a		1 pt/a		PRE	A				
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B				
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B				
4	LI6378	100	SL	3 pt/a		3 pt/a		PRE	A	99 a	99 a	99 a	97 a
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B				
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B				
5	LI6378	100	SL	1.5 pt/a		1.5 pt/a		PRE	A	99 a	99 a	99 a	97 a
	TOP GUN	2	SC	0.25 lb ai/a		1 pt/a		PRE	A				
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B				
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B				
6	VALOR XLT	40.3	WG			3 oz/a		PRE	A	99 a	98 a	99 a	97 a
	VALOR SX	51	WG	0.056 lb ai/a				PRE	A				
	CLASSIC	25	WG	0.0194 lb ai/a				PRE	A				
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B				
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B				
7	AUTHORITY MTZ	45	WG	0.28 lb ai/a		10 oz/a		PRE	A	96 b	95 b	94 a	94 a
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B				
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B				
8	BOUNDARY	6.5	EC	1.22 lb ai/a		1.5 pt/a		PRE	A	99 a	99 a	99 a	98 a
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B				
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B				
9	PREFIX	5.29	EC	1.32 lb ai/a		2 pt/a		PRE	A	99 a	98 a	97 a	96 a
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B				
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B				
10	SONIC	70	WG	0.14 lb ai/a		3.2 oz/a		PRE	A	99 a	98 a	98 a	97 a
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B				
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B				
11	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		28DA-A	B			80 b	83 b
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		28DA-A	B				
	MAKAZE	3	SL	0.75 lb ae/a		32 fl oz/a		14DA-B	C				
	WEATHER GUARD COMPLETE	100	SL	0.5 % v/v		2 qt/100 gal		14DA-B	C				
LSD (P=.05)							1.1	2.3	6.4	4.4			
Standard Deviation							0.8	1.6	4.4	3.0			
CV							0.86	1.82	5.05	3.49			
Replicate F							0.496	3.155	2.618	4.374			
Replicate Prob(F)							0.6881	0.0410	0.0691	0.0114			
Treatment F							6608.887	1497.454	178.404	369.144			
Treatment Prob(F)							0.0001	0.0001	0.0001	0.0001			

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Trial Comments

1. Protocol: Loveland (Project No. 39).
2. Ratings: CI/WC at 21 and 28 DA-A and 14 and 28 DA-B.
3. Yield.
4. Take photos at 28 DA-A and 14 DA-B.
5. Blanket burndown of Gramoxone Inteon (4 pt/A) plus NIS (0.5%) was applied on 4-28-12.
6. Rainfall following the PRE application was approximately 0.5 inch the next day and an additional 0.25 inch 7 days later.
Rainfall following application C was on the same day, 4 hours after application.
7. AMATA-HR = Herbicide-resistant waterhemp (glyphosate).
8. Harvested 10-10-12, (2) 30 inch rows by 27 ft.