

# The Ohio State University

## Cadet/Marvel/Accolade/Roundup early post emergence in soybeans

Trial ID: 14 SOYYLD1  
Protocol ID: 14 SOYYLD1  
Project ID: FLUT.SOY.14.JPR.01

Location: Western Branch Trial Year: 2014  
Investigator: Dr. Mark M. Loux  
Study Director: Bryan Reeb  
Sponsor Contact: Joe Reed, FMC

### General Trial Information

Study Director: Bryan Reeb  
Investigator: Dr. Mark M. Loux

Latitude of LL Corner °: 39.8594 N  
Longitude of LL Corner °: 83.67416 W

### Contacts

Study Director: Bryan Reeb  
Investigator: Dr. Mark M. Loux

### Crop Description

Crop 1: GLXMA Glycine max  
Variety: PIONEER 35T58  
Description: Roundup Ready

Soybean

Planting Rate, Unit: 178000 S/A  
Depth, Unit: 1 IN  
Row Spacing, Unit: 15 IN

Planting Date: 5/27/2014  
Planting Method: PLANTD planted  
Planting Equipment: FE Field Equipment  
Emergence Date: 6/2/2014  
Harvested Width, Unit: 6.25 FT  
Harvested Length, Unit: 40 FT

Seed Bed: SMOTRA smooth/trashy

### Pest Description

Pest 1 Type: W Code: AMBTR Ambrosia trifida  
Common Name: Giant ragweed

Pest 2 Type: W Code: IPOHE Ipomoea hederacea  
Common Name: Ivyleaf morningglory

Pest 3 Type: W Code: CHEAL Chenopodium album  
Common Name: Common lambsquarters

### Site and Design

Treated Plot Width: 6.67 FT  
Treated Plot Length: 40 FT  
Treated Plot Area: 266.8 FT2  
Replications: 4

Site Type: FIELD field  
Experimental Unit: 1 PLOT plot  
Tillage Type: CONTIL conventional-till  
Study Design: RACOB� Randomized Complete Block (RCB)

### Soil Description

Description Name: G-6  
% OM: 2.2 Texture: SICL silty clay loam  
pH: 6.3 Soil Name: Crosby  
CEC: 13.6 Fert. Level: G good  
Soil Drainage: G good

### Application Description

	A	B
Application Date:	5/27/2014	6/14/2014
Appl. Start Time:	2:05 PM	8:30 AM
Application Method:	SPRAY	SPRAY
Application Timing:	PRE	EPO
Application Placement:	BROSOIL	BROFOL
Applied By:	REEB	
Air Temperature, Unit:	86.2 F	63.3 F
% Relative Humidity:	55.3	69.5
Wind Velocity, Unit:	5.5 MPH	2.7 MPH
Wind Direction:	W	SSW
Dew Presence (Y/N):	N no	N no
Soil Temperature, Unit:	72 F	58 F
Soil Moisture:	DRY	SLIDRY
% Cloud Cover:	50	1
Next Moisture Occurred On:	6/2/2014	6/16/2014
Time to Next Moisture, Unit:	6 DAY	2 DAY

### Crop Stage At Each Application

	A	B
Crop 1 Code, BBCH Scale:	GLXMA BSOY	GLXMA BSOY
Stage Scale Used:	BBCH	
Stage Majority, Percent:	13	100
Height, Unit:	4	IN
Height Minimum, Maximum:	2	4

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### Pest Stage At Each Application

	A	B
Pest 1 Code, Type, Scale:	AMBTR W	AMBTR W
Stage Majority, Percent:	14	
Height, Unit:	4 IN	
Height Minimum, Maximum:	4 5	
Density, Unit:	7.5 M2	
Pest 2 Code, Type, Scale:	IPOHE W	IPOHE W
Stage Majority, Percent:	11	
Height, Unit:	1 IN	
Height Minimum, Maximum:	1 1.5	
Pest 3 Code, Type, Scale:	CHEAL W	CHEAL W
Density, Unit:	0.5 M2	

### Application Equipment

	A	B
Appl. Equipment:	TRACTOR SPRA	10' BACKPACK
Equipment Type:	TRMOSP	BACCAI
Operation Pressure, Unit:	28 PSI	50 PSI
Nozzle Type:	AI 11002	AIXR
Nozzle Size:	20 GPA	11015
Nozzle Spacing, Unit:	20 IN	18 IN
Nozzles/Row:		6
Boom Length, Unit:	20 FT	10 FT
Boom Height, Unit:	20 IN	20 IN
Ground Speed, Unit:	3 MPH	3 MPH
Carrier:	WATER	WATER
Spray Volume, Unit:	15 gal/ac	15 gal/ac
Mix Size, Unit:	20 Gallons	2 liters
Propellant:	PUMROL	COMCO2

Date	By	Notes
5/27/2014	REEB	Tractor overlaid the Dual II magnum treatment at 12 oz/ac

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Pest Type	Weight	Moisture	Weight	TestWeight
Pest Code				
Pest Scientific Name				
Pest Name				
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA
BBCH Scale	BSOY	BSOY	BSOY	BSOY
Crop Scientific Name	Glycine max	Glycine max	Glycine max	Glycine max
Crop Name	Soybean	Soybean	Soybean	Soybean
Rating Date	10/24/2014	10/24/2014	10/24/2014	10/24/2014
Rating Type	WEIGHT	MOICON	YIELD	WEITES
Rating Unit	LBS	%	BU	LBS
Number of Subsamples	1	1	1	1
Days After First/Last Applic.	150 132	150 132	150 132	150 132
Trt-Eval Interval				
Plant-Eval Interval	150 DP-1	150 DP-1	150 DP-1	150 DP-1
Days After Emergence	144 DE-1	144 DE-1	144 DE-1	144 DE-1
ARM Action Codes			TY1	
Number of Decimals			1	

Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	19	20	21	22
1	Dual II Magnum	0.714 lb ai/a	ai/a	12 oz/a	oz/a	PRE	A	16.7248017 abc	12.525 b	48.8 abc	53.2860 ab
1	Roundup Power Max	1.13 lb ae/a	ae/a	32 oz/a	oz/a	1-3"	WDS B				
1	N-pak ams	3.75 % v/v	v/v	2.25 qt/a	qt/a	1-3"	WDS B				
2	Dual II Magnum	0.714 lb ai/a	ai/a	12 oz/a	oz/a	PRE	A	15.8911016 bc	12.230 b	46.6 bc	50.9553 ab
2	Cadet	0.00427 lb ai/a	ai/a	0.6 oz/a	oz/a	1-3"	WDS B				
2	Roundup Power Max	1.13 lb ae/a	ae/a	32 oz/a	oz/a	1-3"	WDS B				
2	COC	1 % v/v	v/v	0.6 qt/a	qt/a	1-3"	WDS B				
2	N-pak ams	3.75 % v/v	v/v	2.25 qt/a	qt/a	1-3"	WDS B				
3	Dual II Magnum	0.714 lb ai/a	ai/a	12 oz/a	oz/a	PRE	A	16.1764016 abc	12.855 b	47.1 abc	53.1753 ab
3	Cadet	0.0064 lb ai/a	ai/a	0.9 oz/a	oz/a	1-3"	WDS B				
3	Roundup Power Max	1.13 lb ae/a	ae/a	32 oz/a	oz/a	1-3"	WDS B				
3	COC	1 % v/v	v/v	0.6 qt/a	qt/a	1-3"	WDS B				
3	N-pak ams	3.75 % v/v	v/v	2.25 qt/a	qt/a	1-3"	WDS B				
4	Dual II Magnum	0.714 lb ai/a	ai/a	12 oz/a	oz/a	PRE	A	15.9155518 bc	12.455 b	46.5 bc	53.8413 a
4	Marvel	0.17 lb ai/a	ai/a	7.25 oz/a	oz/a	1-3"	WDS B				
4	Roundup Power Max	1.13 lb ae/a	ae/a	32 oz/a	oz/a	1-3"	WDS B				
4	COC	1 % v/v	v/v	0.6 qt/a	qt/a	1-3"	WDS B				
4	N-pak ams	3.75 % v/v	v/v	2.25 qt/a	qt/a	1-3"	WDS B				
5	Dual II Magnum	0.714 lb ai/a	ai/a	12 oz/a	oz/a	PRE	A	16.7444267 abc	12.463 b	48.9 abc	53.6585 a
5	Marvel	0.17 lb ai/a	ai/a	7.25 oz/a	oz/a	1-3"	WDS B				
5	Roundup Power Max	1.13 lb ae/a	ae/a	32 oz/a	oz/a	1-3"	WDS B				
5	NIS	0.25 % v/v	v/v	0.15 qt/a	qt/a	1-3"	WDS B				
5	N-pak ams	3.75 % v/v	v/v	2.25 qt/a	qt/a	1-3"	WDS B				
6	Dual II Magnum	0.714 lb ai/a	ai/a	12 oz/a	oz/a	PRE	A	18.8874269 a	12.453 b	55.2 a	54.0208 a
6	Marvel	0.17 lb ai/a	ai/a	7.25 oz/a	oz/a	1-3"	WDS B				
6	Roundup Power Max	1.13 lb ae/a	ae/a	32 oz/a	oz/a	1-3"	WDS B				
6	NIS	0.125 % v/v	v/v	0.075 qt/a	qt/a	1-3"	WDS B				
6	N-pak ams	3.75 % v/v	v/v	2.25 qt/a	qt/a	1-3"	WDS B				
7	Dual II Magnum	0.714 lb ai/a	ai/a	12 oz/a	oz/a	PRE	A	18.0051766 ab	13.130 b	52.2 ab	53.8053 a
7	Firstrate	0.0158 lb ai/a	ai/a	0.3 oz/a	oz/a	1-3"	WDS B				
7	Roundup Power Max	1.13 lb ae/a	ae/a	32 oz/a	oz/a	1-3"	WDS B				
7	COC	1 % v/v	v/v	0.6 qt/a	qt/a	1-3"	WDS B				
7	N-pak ams	3.75 % v/v	v/v	2.25 qt/a	qt/a	1-3"	WDS B				

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 Type	Weight	Moisture	Weight	TestWeight
Pest Code				
Pest Scientific Name				
Pest Name				
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA
BBCH Scale	BSOY	BSOY	BSOY	BSOY
Crop Scientific Name	Glycine max	Glycine max	Glycine max	Glycine max
Crop Name	Soybean	Soybean	Soybean	Soybean
Rating Date	10/24/2014	10/24/2014	10/24/2014	10/24/2014
Rating Type	WEIGHT	MOICON	YIELD	WEITES
Rating Unit	LBS	%	BU	LBS
Number of Subsamples	1	1	1	1
Days After First/Last Applic.	150 132	150 132	150 132	150 132
Trt-Eval Interval				
Plant-Eval Interval	150 DP-1	150 DP-1	150 DP-1	150 DP-1
Days After Emergence	144 DE-1	144 DE-1	144 DE-1	144 DE-1
ARM Action Codes			TY1	
Number of Decimals			1	

Trt No.	Treatment Name	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	19	20	21	22
8	Dual II Magnum	0.714 lb ai/a	12 oz/a			PRE	A	17.2021767 ab	12.303 b	50.4 ab	53.7400 a
8	Accolade	0.00045 lb ai/a	0.9 oz/a			1-3" WDS	B				
8	Roundup Power Max	1.13 lb ae/a	32 oz/a			1-3" WDS	B				
8	COC	1 % v/v	0.6 qt/a			1-3" WDS	B				
8	N-pak ams	3.75 % v/v	2.25 qt/a			1-3" WDS	B				
9	Dual II Magnum	0.714 lb ai/a	12 oz/a			PRE	A	16.7744017 abc	13.485 b	48.4 abc	53.8500 a
9	Accolade	0.00006 lb ai/a	0.12 oz/a			1-3" WDS	B				
9	Firstrate	0.0158 lb ai/a	0.3 oz/a			1-3" WDS	B				
9	Roundup Power Max	1.13 lb ae/a	32 oz/a			1-3" WDS	B				
9	COC	1 % v/v	0.6 qt/a			1-3" WDS	B				
9	N-pak ams	3.75 % v/v	2.25 qt/a			1-3" WDS	B				
10	Dual II Magnum	0.714 lb ai/a	12 oz/a			PRE	A	17.4518267 ab	13.678 b	50.3 ab	52.7110 ab
10	Cadet	0.00427 lb ai/a	0.6 oz/a			1-3" WDS	B				
10	Firstrate	0.0158 lb ai/a	0.3 oz/a			1-3" WDS	B				
10	Roundup Power Max	1.13 lb ae/a	32 oz/a			1-3" WDS	B				
10	COC	1 % v/v	0.6 qt/a			1-3" WDS	B				
10	N-pak ams	3.75 % v/v	2.25 qt/a			1-3" WDS	B				
11	Dual II Magnum	0.714 lb ai/a	12 oz/a			PRE	A	16.9292267 abc	13.508 b	48.9 abc	52.3800 ab
11	Anthem	0.101 lb ai/a	6 oz/a			1-3" WDS	B				
11	Accolade	0.00006 lb ai/a	0.12 oz/a			1-3" WDS	B				
11	Firstrate	0.0158 lb ai/a	0.3 oz/a			1-3" WDS	B				
11	Roundup Power Max	1.13 lb ae/a	32 oz/a			1-3" WDS	B				
11	COC	1 % v/v	0.6 qt/a			1-3" WDS	B				
11	N-pak ams	3.75 % v/v	2.25 qt/a			1-3" WDS	B				
12	Dual II Magnum	0.714 lb ai/a	12 oz/a			PRE	A	14.1100264 c	12.958 b	41.0 c	53.1260 ab
12	Anthem	0.101 lb ai/a	6 oz/a			1-3" WDS	B				
12	Accolade	0.00006 lb ai/a	0.12 oz/a			1-3" WDS	B				
12	Firstrate	0.0158 lb ai/a	0.3 oz/a			1-3" WDS	B				
12	Select Max	0.094 lb ai/a	12 oz/a			1-3" WDS	B				
12	COC	1 % v/v	0.6 qt/a			1-3" WDS	B				
12	N-pak ams	3.75 % v/v	2.25 qt/a			1-3" WDS	B				
13	Dual II Magnum	0.714 lb ai/a	12 oz/a			PRE	A	9.7819760 d	15.473 a	27.4 d	48.7108 b
13	Anthem	0.101 lb ai/a	6 oz/a			1-3" WDS	B				
13	Basagran	0.375 lb ai/a	12 oz/a			1-3" WDS	B				
13	Classic	0.0078 lb ai/a	0.5 oz/a			1-3" WDS	B				
13	Select Max	0.094 lb ai/a	12 oz/a			1-3" WDS	B				
13	COC	1 % v/v	0.6 qt/a			1-3" WDS	B				
13	N-pak ams	3.75 % v/v	2.25 qt/a			1-3" WDS	B				

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Pest Code									
Pest Scientific Name									
Pest Name									
Crop Code	GLXMA	GLXMA	GLXMA	GLXMA					
BBCH Scale	BSOY	BSOY	BSOY	BSOY					
Crop Scientific Name	Glycine max	Glycine max	Glycine max	Glycine max					
Crop Name	Soybean	Soybean	Soybean	Soybean					
Rating Date	10/24/2014	10/24/2014	10/24/2014	10/24/2014					
Rating Type	WEIGHT	MOICON	YIELD	WEITES					
Rating Unit	LBS	%	BU	LBS					
Number of Subsamples	1	1	1	1					
Days After First/Last Applic.	150 132	150 132	150 132	150 132					
Trt-Eval Interval									
Plant-Eval Interval	150 DP-1	150 DP-1	150 DP-1	150 DP-1					
Days After Emergence	144 DE-1	144 DE-1	144 DE-1	144 DE-1					
ARM Action Codes			TY1						
Number of Decimals			1						
Trt Treatment	Rate	Other Rate	Other Rate	Growth Unit Stage	Appl Code	19	20	21	22
14 UTC						6.2041006 e	12.478 b	18.1 e	40.4890 c
LSD (P=.05)						2.91259805	1.5595	8.23	4.87147
Standard Deviation						2.03811769	1.0913	5.76	3.40886
CV						13.16	8.39	12.8	6.56
Bartlett's X2						27.827	53.342	24.052	86.412
P(Bartlett's X2)						0.01*	0.001*	0.031*	0.001*
Replicate F						3.484	1.509	3.439	3.163
Replicate Prob(F)						0.0247	0.2273	0.0259	0.0351
Treatment F						11.333	2.472	12.319	4.483
Treatment Prob(F)						0.0001	0.0146	0.0001	0.0001

Crop Code  
GLXMA, BSOY, Glycine max, = US  
Rating Type  
WEIGHT = weight  
MOICON = moisture content  
YIELD = yield  
WEITES = weight - test  
Rating Unit  
% = percent  
BU = bushel  
Plant-Eval Interval  
150 DP-1 = 1 GLXMA 5/27/2014  
ARM Action Codes  
TY1 = 2.904\*[19]\*(100-[20])/87