

Cheminova Experimental Premix Herbicide Formulations in Soybean.

Trial ID: 09-2A-E135

Location: Belleville Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu
 City State Zip Country: Belleville IL 62221 USA
 Trial Status: FINAL Initiation Date: 06-30-09

Objectives: Compare premix formulation of clomazone and metribuzin (ME) when applied preemergence to soybean.

Crop 1: GLXMA Soybean Variety: AG 4404 Description: RR/STS
 Planting Method: SEEDS Planting Date: 06-30-09
 Rate, Unit: 75 LB/A Depth, Unit: 1.0 IN
 Row Spacing, Unit: 30 IN

Pest 1 Type: W Code: CYPES Cyperus esculentus L. nutsedge, yellow
 Pest 2 Type: W Code: XANST Xanthium strumarium L. cocklebur, common
 Pest 3 Type: W Code: AMBEL Ambrosia artemisiifolia L. ragweed, common
 Pest 4 Type: W Code: AMATA Amaranthus rudis Sauer waterhemp, common
 Pest 5 Type: W Code: GGGAN grasses, annual

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 28 FT Tillage Type: REDUCED-TILL
 Replications: 4 Study Design: Randomized Complete Block

Prior Crops, Year
 1. ZEAMD 2008

Field Prep./Maintenance: N 0 LB/A, P205 0 LB/A, K20 0 LB/A

% OM: 1.6 Texture: SILT LOAM
 pH: 6.2 Soil Name: PIERRON
 CEC: 7 Fert. Level: P1:93 LB/A, K:448 LB/A

Application Description A

Application Date: 07-01-09
 Time of Day: 7:00
 Application Method: Spray
 Application Timing: PRE
 Application Placement: BROSOI
 Applied By: DKP
 Air Temperature, Unit: 70 F
 % Relative Humidity: 92
 Wind Velocity, Unit: 1 MPH
 Wind Direction: W
 Dew Presence (Y/N): N
 % Cloud Cover: 20

07-01-09
 Crop stage at application: NA

Pest Stage At Each Application

Application Date: 07-01-09
 Weed Code: CYPES
 Stage Majority (leaves): NA
 Weed Code: XANST
 Stage Majority (leaves): NA
 Weed Code: AMBEL
 Stage Majority (leaves): NA
 Weed Code: AMATA
 Stage Majority (leaves): NA
 Weed Code: GGGAN
 Stage Majority (leaves): NA

Application Equipment

Appl. Equipment: CO2 sprayer
 Operating Pressure: 30 PSI
 Nozzle Type: Flat fan
 Nozzle Size: XR 8002
 Boom Length, Unit: 7.5 FT
 Spray Volume, Unit: 15 GPA

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Pest Code																
Crop Code																
Rating Date																
Rating Data Type																
Rating Unit																
Rating Timing																
Trt-Eval Interval																

Trt	Treatment No.	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code	GLXMA 07-15-09 Injury Percent	GLXMA 07-29-09 Injury Percent	CYPES 07-22-09 Control Percent	CYPES 08-05-09 Control Percent	CYPES 08-19-09 Control Percent	XANST 07-22-09 Control Percent	XANST 08-05-09 Control Percent	XANST 08-19-09 Control Percent
										14 DA-A	28 DA-A	21 DA-A	35 DA-A	49 DA-A	21 DA-A	35 DA-A	49 DA-A
1	CHA-016	3	ME	0.38	lb ai/a	16.2	floz/a	PRE	A	3 de	0 b	35 h	38 fg	43 efg	33 j	59 e	53 de
2	CHA-016	3	ME	0.50	lb ai/a	21.3	floz/a	PRE	A	6 abc	1 ab	40 gh	44 efg	43 efg	41 ij	36 f	30 f
3	CHA-016	3	ME	0.75	lb ai/a	32	floz/a	PRE	A	5 b-e	0 b	48 fg	49 cde	48 cde	48 hi	61 e	51 e
4	CHA-019	4.5	ME	0.75	lb ai/a	21.3	floz/a	PRE	A	4 cde	0 b	5 i	38 fg	35 fg	64 ef	81 cd	69 c
5	CHA-019	4.5	ME	0.94	lb ai/a	26.7	floz/a	PRE	A	6 abc	3 a	55 def	45 def	46 de	63 ef	86 bc	69 c
6	CHA-019	4.5	ME	1.13	lb ai/a	32	floz/a	PRE	A	7 ab	3 a	70 abc	53 cd	55 bcd	79 cd	92 ab	88 ab
7	CHA-019	4.5	ME	1.5	lb ai/a	42.7	floz/a	PRE	A	8 a	2 ab	75 ab	49 cde	60 b	93 ab	97 a	96 a
8	CHA-019	4.5	ME	2.26	lb ai/a	64	floz/a	PRE	A	5 b-e	1 ab	81 a	68 a	70 a	97 a	97 a	95 a
9	CHA-021	4	ME	0.52	lb ai/a	16.6	floz/a	PRE	A	3 de	0 b	48 fg	0 h	0 h	50 ghi	74 d	63 cde
10	CHA-021	4	ME	0.68	lb ai/a	21.4	floz/a	PRE	A	5 b-e	0 b	74 ab	51 cde	48 cde	58 fgh	64 e	55 de
11	CHA-021	4	ME	1.0	lb ai/a	32	floz/a	PRE	A	3 ef	0 b	75 ab	55 c	54 bcd	71 de	91 ab	83 b
12	CHA-021	4	ME	2.0	lb ai/a	64	floz/a	PRE	A	4 b-e	1 ab	75 ab	64 ab	61 ab	93 ab	97 a	97 a
13	CHA-016	3	ME	0.51	lb ai/a	21.8	floz/a	PRE	A	2 ef	0 b	60 cde	45 def	50 cde	50 ghi	79 cd	61 cde
13	METRIBUZIN	4	AS	0.17	lb ai/a	5.44	fl oz/a	PRE	A								
14	CHA-016	3	ME	0.75	lb ai/a	32	floz/a	PRE	A	3 de	0 b	65 bcd	56 bc	55 bcd	80 cd	96 a	90 ab
14	METRIBUZIN	4	AS	0.25	lb ai/a	8	floz/a	PRE	A								
15	CHA-016	3	ME	0.75	lb ai/a	32	fl oz/a	PRE	A	3 de	0 b	75 ab	54 c	56 bc	83 bc	94 a	90 ab
15	METRIBUZIN	4	AS	0.38	lb ai/a	12.2	floz/a	PRE	A								
16	METRIBUZIN	4	AS	0.38	lb ai/a	12.2	floz/a	PRE	A	4 cde	0 b	66 bcd	49 cde	44 ef	60 fg	77 d	64 cd
17	CHA-016	3	ME	0.50	lb ai/a	21.3	floz/a	PRE	A	5 a-d	0 b	50 efg	36 g	34 g	45 i	81 cd	69 c
17	DAWN	2	AS	0.25	lb ai/a	16	floz/a	PRE	A								
18	NONTREATED									0 f	0 b	0 i	0 h	0 h	0 k	0 g	0 g
19	NONTREATED									0 f	0 b	0 i	0 h	0 h	0 k	0 g	0 g
LSD (P=.05)										2.6	2.3	11.6	7.9	9.2	10.6	7.7	12.0
Replicate F										2.591	3.240	0.477	0.243	0.452	3.126	1.144	1.130
Replicate Prob(F)										0.0630	0.0299	0.6995	0.8659	0.7168	0.0332	0.3396	0.3451
Treatment F										5.053	1.122	40.896	53.163	40.160	54.456	121.632	46.524
Treatment Prob(F)										0.0001	0.3607	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

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								AMBEL	AMBEL	AMBEL	AMATA	AMATA	AMATA	GGGAN	GGGAN	GGGAN	
Pest Code								07-22-09	08-05-09	08-19-09	07-22-09	08-05-09	08-19-09	07-22-09	08-05-09	08-19-09	
Crop Code								Control	Control	Control	Control	Control	Control	Control	Control	Control	
Rating Date								Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Rating Data Type																	
Rating Unit																	
Rating Timing																	
Trt-Eval Interval								21 DA-A	35 DA-A	49 DA-A	21 DA-A	35 DA-A	49 DA-A	21 DA-A	35 DA-A	49 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code									
1	CHA-016	3	ME	0.38 lb ai/a	16.2 floz/a		PRE	A	38 f	59 g	45 h	45 e	50 g	39 h	95 c	76 d	70 e
2	CHA-016	3	ME	0.50 lb ai/a	21.3 floz/a		PRE	A	58 e	75 f	61 g	65 d	69 f	63 g	97 b	96 ab	94 c
3	CHA-016	3	ME	0.75 lb ai/a	32 floz/a		PRE	A	71 d	81 e	66 fg	79 c	70 f	63 g	99 a	98 a	97 b
4	CHA-019	4.5	ME	0.75 lb ai/a	21.3 floz/a		PRE	A	93 ab	93 cd	83 cd	98 a	94 bc	80 d	98 ab	98 a	97 ab
5	CHA-019	4.5	ME	0.94 lb ai/a	26.7 floz/a		PRE	A	96 a	94 bc	86 c	99 a	96 ab	91 abc	99 a	98 a	98 ab
6	CHA-019	4.5	ME	1.13 lb ai/a	32 floz/a		PRE	A	99 a	96 abc	90 abc	99 a	95 ab	90 bc	99 a	99 a	99 ab
7	CHA-019	4.5	ME	1.5 lb ai/a	42.7 floz/a		PRE	A	99 a	98 ab	95 ab	99 a	98 a	96 ab	99 a	99 a	99 ab
8	CHA-019	4.5	ME	2.26 lb ai/a	64 floz/a		PRE	A	99 a	98 ab	97 a	99 a	98 a	97 a	99 a	99 a	99 a
9	CHA-021	4	ME	0.52 lb ai/a	16.6 floz/a		PRE	A	79 cd	75 f	64 fg	95 ab	81 e	73 ef	99 a	97 a	97 ab
10	CHA-021	4	ME	0.68 lb ai/a	21.4 floz/a		PRE	A	73 d	82 e	76 de	97 ab	86 d	66 fg	99 a	94 bc	99 ab
11	CHA-021	4	ME	1.0 lb ai/a	32 floz/a		PRE	A	96 a	93 cd	87 bc	99 a	91 c	79 de	99 a	99 a	98 ab
12	CHA-021	4	ME	2.0 lb ai/a	64 floz/a		PRE	A	99 a	99 a	97 a	99 a	99 a	92 abc	99 a	99 a	99 a
13	CHA-016	3	ME	0.51 lb ai/a	21.8 floz/a		PRE	A	84 bc	89 d	70 ef	97 ab	94 bc	89 c	99 a	91 c	90 d
13	METRIBUZIN	4	AS	0.17 lb ai/a	5.44 fl oz/a		PRE	A									
14	CHA-016	3	ME	0.75 lb ai/a	32 floz/a		PRE	A	97 a	93 cd	89 bc	99 a	97 ab	93 abc	99 a	99 a	99 a
14	METRIBUZIN	4	AS	0.25 lb ai/a	8 floz/a		PRE	A									
15	CHA-016	3	ME	0.75 lb ai/a	32 fl oz/a		PRE	A	98 a	95 bc	90 abc	99 a	97 ab	95 abc	99 a	99 a	98 ab
15	METRIBUZIN	4	AS	0.38 lb ai/a	12.2 floz/a		PRE	A									
16	METRIBUZIN	4	AS	0.38 lb ai/a	12.2 floz/a		PRE	A	77 cd	71 f	50 h	99 a	80 e	73 ef	98 ab	53 e	55 f
17	CHA-016	3	ME	0.50 lb ai/a	21.3 floz/a		PRE	A	73 d	71 f	45 h	89 b	68 f	61 g	99 a	94 bc	94 c
17	DAWN	2	AS	0.25 lb ai/a	16 floz/a		PRE	A									
18	NONTREATED								0 g	0 h	0 i	0 f	0 h	0 i	0 d	0 f	0 g
19	NONTREATED								0 g	0 h	0 i	0 f	0 h	0 i	0 d	0 f	0 g
LSD (P=.05)									10.9	4.0	8.3	9.0	4.0	6.8	1.7	3.0	2.2
Replicate F									0.928	2.651	0.702	0.417	0.586	1.250	1.330	1.311	0.897
Replicate Prob(F)									0.4335	0.0579	0.5549	0.7412	0.6271	0.3007	0.2741	0.2802	0.4487
Treatment F									66.314	437.519	100.471	100.998	469.610	147.047	2542.921	907.930	1567.781
Treatment Prob(F)									0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Trial Comments

1. Protocol: Cheminova (HGLXMACLOM0901).
2. Ratings: CI at 14 + 28 DAT; WC at 21, 35 + 49 DAT.
3. GGGAN = Annual grasses including SETFA (giant foxtail) and PANDI (fall panicum).
Crop injury was necrosis, malformation and stunt.
4. Stand reduction due to standing water was observed and recorded by plot.