

Southern Illinois University

Evaluation of Fire-Zone and HM9754 in Fall Burndown.

Trial ID: 12-YRC-Helena-fall
 Location: Young Res. Center

Investigator: Bryan Young

General Trial Information	
Study Director: Bryan Young	Investigator: Bryan Young Title: Professor
Trial Status: F - one-year/final	
Initiation Date: 11-23-11	
Trial Location	
City: Murphysboro	
State/Prov.: IL	
Postal Code: 62966	
Country: USA	

Objectives: To evaluate Fire-Zone in fall herbicide programs with and without stalk decomposition.
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Personnel
Study Director: Bryan Young
Investigator: Bryan Young Title: Professor
Affiliation: Southern Illinois University
Address: 1205 Lincoln Drive - AG 176 - MC 4415
Location: Carbondale IL
Postal Code: 62901 E-mail: bgyoung@siu.edu
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Crop Description
Crop 1: NONE - Non-crop

Pest Description
Pest 1 Type: W Code: ERICA - Conyza canadensis (L.) Crong. Common Name: horseweed Description: glyphosate-resistant marestail
Pest 2 Type: W Code: LAMAM - Lamium amplexicaule L. Common Name: henbit
Pest 3 Type: W Code: STEME - Stellaria media (L.) Vill. Common Name: chickweed, common
Pest 4 Type: W Code: GERCA - Geranium carolinianum L. Common Name: geranium, Carolina

Site and Design	
Plot Width, Unit: 10 FT	Site Type: 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		
% OM: 1.82	Texture: SIL SILT LOAM	
pH: 6.2	Soil Name: ALVIN	
CEC: 6.16		
Additional Measured Elements		
Element	Quantity	Unit
P1	154	LB/A
K	264	LB/A

Moisture and Weather Conditions	
Overall Moisture Conditions:	BELNOR below normal
Closest Weather Station: SOUTHERN IL AIRPORT (93810)	Distance, Unit: 3.5 MI

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Application Description

	A
Application Date:	11-23-11
Time of Day:	14:30
Application Method:	Spray
Application Timing:	FALL
Application Placement:	BROFOL
Applied By:	JRK
Air Temperature, Unit:	52 F
% Relative Humidity:	74
Wind Velocity, Unit:	2 MPH
Wind Direction:	E
Dew Presence (Y/N):	N no
Soil Temperature, Unit:	51 F
Soil Moisture:	ABONOR
% Cloud Cover:	100
Next Rain Occurred On:	11-26-11

Crop Stage At Each Application

	A
Crop 1 Code, BBCH Scale:	NONE
Stage Scale Used:	DESC
Stage Majority, Percent:	NA

Pest Stage At Each Application

	A
Pest 1 Code, Type, Scale:	ERICA W DESC
Stage Majority, Percent:	6
Stage Minimum, Percent:	4
Stage Maximum, Percent:	14
Height, Unit:	0.5 IN
Height Minimum, Maximum:	0.5 1.5
Density, Unit:	0.5 FT2
Pest 2 Code, Type, Scale:	LAMAM W DESC
Stage Majority, Percent:	4
Stage Minimum, Percent:	2
Stage Maximum, Percent:	8
Height, Unit:	2 IN
Height Minimum, Maximum:	1 3
Density, Unit:	0.1 FT2
Pest 3 Code, Type, Scale:	STEME W DESC
Stage Majority, Percent:	4
Stage Minimum, Percent:	2
Stage Maximum, Percent:	6
Height, Unit:	1 IN
Height Minimum, Maximum:	0.5 1
Density, Unit:	0.1 FT2
Pest 4 Code, Type, Scale:	GERCA W DESC
Stage Majority, Percent:	4
Stage Minimum, Percent:	2
Stage Maximum, Percent:	6
Height, Unit:	2 IN
Height Minimum, Maximum:	1 3
Density, Unit:	0.3 FT2

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Application Equipment

	A
Appl. Equipment:	CO2 sprayer
Equipment Type:	BACSPR
Operation Pressure, Unit:	30 PSI
Nozzle Type:	TT
Nozzle Size:	110015
Boom Length, Unit:	6.67 FT
Spray Volume, Unit:	12 GPA

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Pest Code	Crop Code	Rating Date	ZEAMD 4-26-12	ERICA-HR 11-30-11	ERICA-HR 12-14-11	ERICA-HR 4-1-12	ERICA-HR 5-1-12	
Rating Type	Rating Unit	Rating Timing	Residue g/1.0 m2	Control Percent	Control Percent	Control Percent	Control Percent	
Trt-Eval Interval			155 DA-A	7 DA-A	21 DA-A	130 DA-A	160 DA-A	
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit	Appl Code
1	NONTREATED							
409 a				0 b	0 b	0 b	0 c	
2	CANOPY EX PREMIUM MSO	29.5 WG 100 SL	0.034 lb ai/a 1.0 % v/v	1.85 oz/a 1 % v/v			FALL A FALL A	
398 a				5 a	10 a	95 a	86 ab	
3	CANOPY EX FIRE-ZONE	29.5 WG 100 SL	0.034 lb ai/a 1.0 % v/v	1.85 oz/a 1 % v/v			FALL A FALL A	
393 a				5 a	10 a	95 a	84 b	
4	CANOPY EX PREMIUM MSO HM9754 28% UAN	29.5 WG 100 SL 100 SL 100 SL	0.034 lb ai/a 1.0 % v/v 1.0 gal/a 4.0 gal/a	1.85 oz/a 1 % v/v 1 gal/a 4 gal/a			FALL A FALL A FALL A FALL A	
368 a				6 a	10 a	97 a	90 a	
5	CANOPY EX FIRE-ZONE HM9754 28% UAN	29.5 WG 100 SL 100 SL 100 SL	0.034 lb ai/a 1.0 % v/v 1.0 gal/a 4.0 gal/a	1.85 oz/a 1 % v/v 1 gal/a 4 gal/a			FALL A FALL A FALL A FALL A	
391 a				5 a	10 a	94 a	89 ab	
LSD (P=.05)			109.4	1.7	0.0	3.9	5.5	
Standard Deviation			71.0	1.1	0.0	2.5	3.6	
CV			18.14	26.31	0.0	3.34	5.13	
Replicate F			1.697	1.000	0.000	1.187	4.267	
Replicate Prob(F)			0.2205	0.4262	1.0000	0.3559	0.0288	
Treatment F			0.181	19.000	0.000	1121.315	477.156	
Treatment Prob(F)			0.9441	0.0001	1.0000	0.0001	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	LAMAM	LAMAM	LAMAM	LAMAM	STEME	STEME	STEME	
Crop Code	11-30-11	12-14-11	4-1-12	5-1-12	11-30-11	12-14-11	4-1-12	
Rating Date	Control	Control	Control	Control	Control	Control	Control	
Rating Type	Percent	Percent	Percent	Percent	Percent	Percent	Percent	
Rating Unit	7 DA-A	21 DA-A	130 DA-A	160 DA-A	7 DA-A	21 DA-A	130 DA-A	
Rating Timing								
Trt-Eval Interval								
Trt No.	Treatment Name	Form Conc	Form Type	Rate Rate	Other Rate	Other Rate	Growth Unit	Appl Code
1	NONTREATED							
2	CANOPY EX PREMIUM MSO	29.5 WG 100 SL		0.034 lb ai/a 1.0 % v/v	1.85 oz/a 1 % v/v		FALL FALL	A A
3	CANOPY EX FIRE-ZONE	29.5 WG 100 SL		0.034 lb ai/a 1.0 % v/v	1.85 oz/a 1 % v/v		FALL FALL	A A
4	CANOPY EX PREMIUM MSO HM9754 28% UAN	29.5 WG 100 SL 100 SL 100 SL		0.034 lb ai/a 1.0 % v/v 1.0 gal/a 4.0 gal/a	1.85 oz/a 1 % v/v 1 gal/a 4 gal/a		FALL FALL FALL FALL	A A A A
5	CANOPY EX FIRE-ZONE HM9754 28% UAN	29.5 WG 100 SL 100 SL 100 SL		0.034 lb ai/a 1.0 % v/v 1.0 gal/a 4.0 gal/a	1.85 oz/a 1 % v/v 1 gal/a 4 gal/a		FALL FALL FALL FALL	A A A A
LSD (P=.05)				3.6	4.6	3.4	1.1	2.5
Standard Deviation				2.3	3.0	2.2	0.7	1.6
CV				40.48	25.47	2.96	0.92	36.57
Replicate F				0.231	2.744	0.448	2.667	0.615
Replicate Prob(F)				0.8732	0.0893	0.7231	0.0951	0.6181
Treatment F				9.000	20.442	1429.116	14825.001	9.923
Treatment Prob(F)				0.0013	0.0001	0.0001	0.0001	0.0009
								0.286
								0.8348
								16.286
								0.0001
								0.0000
								1.0000
								0.0000
								1.0000

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Pest Code	GERCA	GERCA	GERCA	GERCA									
Crop Code	11-30-11	12-14-11	4-1-12	5-1-12									
Rating Date	Control	Control	Control	Control									
Rating Type	Percent	Percent	Percent	Percent									
Rating Unit	7 DA-A	21 DA-A	130 DA-A	160 DA-A									
Rating Timing													
Trt-Eval Interval													
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Other Rate	Other Rate	Growth Unit	Appl Stage	Code				
1	NONTREATED									0 a	0 a	0 c	0 c
2	CANOPY EX PREMIUM MSO	29.5 WG 100 SL		0.034 lb ai/a 1.0 % v/v	1.85 oz/a 1 % v/v		FALL FALL	A A		0 a	4 a	61 b	30 b
3	CANOPY EX FIRE-ZONE	29.5 WG 100 SL		0.034 lb ai/a 1.0 % v/v	1.85 oz/a 1 % v/v		FALL FALL	A A		0 a	4 a	68 ab	31 ab
4	CANOPY EX PREMIUM MSO HM9754 28% UAN	29.5 WG 100 SL 100 SL 100 SL		0.034 lb ai/a 1.0 % v/v 1.0 gal/a 4.0 gal/a	1.85 oz/a 1 % v/v 1 gal/a 4 gal/a		FALL FALL FALL FALL	A A A A		0 a	4 a	66 ab	29 b
5	CANOPY EX FIRE-ZONE HM9754 28% UAN	29.5 WG 100 SL 100 SL 100 SL		0.034 lb ai/a 1.0 % v/v 1.0 gal/a 4.0 gal/a	1.85 oz/a 1 % v/v 1 gal/a 4 gal/a		FALL FALL FALL FALL	A A A A		0 a	4 a	70 a	46 a
LSD (P=.05)										0.0	3.9	8.2	15.0
Standard Deviation										0.0	2.5	5.3	9.8
CV										0.0	83.33	10.08	35.81
Replicate F										0.000	2.667	3.153	1.974
Replicate Prob(F)										1.0000	0.0951	0.0646	0.1718
Treatment F										0.000	1.800	124.445	11.862
Treatment Prob(F)										1.0000	0.1937	0.0001	0.0004

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Trial Comments

1. Protocol: Helena.
2. Ratings: WC at 5-7 and 21 DAT; WC on April 1 and May 1.
3. Note any differences in stalk decomposition in comments at each evaluation.
4. There were no observable difference in stalk decomposition at any time.
5. g/1.0 m² = grams per square meter.
ERICA-HR = Herbicide-resistant marestail (glyphosate).
6. Not harvested, non-crop.