

Project Code: 04-11B Location: Belleville Research Center
 Investigator: Bryan Young

Investigator: Bryan Young, Associate Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
 Trial Status: Final Updated: 9-1-04

Objective:
 Determine the importance of application timing for fall herbicides.

Weed Code	Common Name	Scientific Name
1. RANAB	buttercup, smallflower	Ranunculus abortivus L.
2. STEME	chickweed, common	Stellaria media (L.) Vill.
3. LAMAM	henbit	Lamium amplexicaule L.
4. ALLVI	garlic, wild	Allium vineale L.
5. AMBTR	ragweed, giant	Ambrosia trifida L.
6. SETFA	foxtail, giant	Setaria faberi Herrm.

Crop 1: ZEAMX corn, field Variety: DKC 60-17 RR
 Planting Method: Seeded Planting Date: 5-11-04
 Rate: 28000 S/A Depth: 1.5 IN
 Row Spacing: 30 IN

Plot Width, Unit: 10 FT Plot Length, Unit: 25 FT Reps: 3
 Tillage Type: No-Till Study Design: Randomized complete block
 Previous Crop, Year: GLXMA, 2003

Field Prep./Maintenance: N 150 LB/A, P205 50 LB/A, K2O 100 LB/A

Soil Name: Ebbert % OM: 2.3 pH: 6.1 CEC: 12
 Texture: Silt loam Fert. Level: P1: 87 LB/A, K: 446 LB/A

APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	10-24-03	11-16-03	12-6-03	3-15-04
Time of Day:	10:00	11:00	15:00	10:00
Application Method:	Spray	Spray	Spray	Spray
Application Timing:	OCT25	NOV15	DEC6	MAR15
Applic. Placement:	BROFOL	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	57 F	55 F	42 F	45 F
% Relative Humidity:	65	90	90	80
Wind Velocity, Unit:	3 MPH	0 MPH	3 MPH	3 MPH
Soil Moisture:	NORMAL	NORMAL	ABONOR	NORMAL

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	ZEAMX NA	ZEAMX NA	ZEAMX NA	ZEAMX NA
Height, Unit:	NA NA	NA NA	NA NA	NA NA

WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code:	RANAB	RANAB	RANAB	RANAB
Stage (leaves):	3-4	3-4	3-5	3-8
Height (inches):	0-1	0-1	1-2	1-2
Density:	Medium	Medium	Medium	Medium
Weed 2 Code:	STEME	STEME	STEME	STEME
Stage (leaves):	1-3	1-4	4-6	10+
Height (inches):	0-1	0-1	1-2	1-2
Density:	Low	Low	Low	Medium
Weed 3 Code:	LAMAM	LAMAM	LAMAM	LAMAM
Stage (leaves):	1-4	1-5	2-5	10+
Height (inches):	0-1	0-1	1-2	1-2
Density:	Low	Low	Low	Medium
Weed 4 Code:	ALLVI	ALLVI	ALLVI	ALLVI
Stage (leaves):	1-2	1-3	1-3	3-4
Height (inches):	3-5	3-6	3-6	6-8
Density:	Low	Low	Low	Medium

APPLICATION EQUIPMENT

	A	B	C	D
Appl. Equipment:	CO2 sprayer	CO2 sprayer	CO2 sprayer	CO2 sprayer
Operating Pressure:	40 PSI	40 PSI	40 PSI	40 PSI
Nozzle Type:	Flat fan	Flat fan	Flat fan	Flat fan
Nozzle Size:	8002	8002	8002	8002
Boom Length, Unit:	7.5 FT	7.5 FT	7.5 FT	7.5 FT
Spray Volume, Unit:	20 GPA	20 GPA	20 GPA	20 GPA

NOTES:

Southern Illinois University

Timing of Fall Herbicide Applications.

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Weed Code		Crop Code		Rating Data Type		Rating Unit		Rating Date		Trt-Eval Interval		RANAB	RANAB	RANAB	STEME	STEME	STEME	LAMAM	LAMAM	LAMAM	ALLVI	ALLVI	ALLVI	AMBTR	SETFA
												Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control
												Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
												21 DAT	21 DA-D	5-11-04	5-11-04	5-11-04	5-11-04	21 DAT	21 DA-D	0 DAP	21 DAT	21 DA-D	0 DAP	21 DAT	21 DA-D
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code																
1	NONTREATED											0	0	0	0	0	0	0	0	0	0	0	0	96	99
2	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	OCT25	A			100	83	83	100	100	100	100	97	97	50	66	66	17	77
3	GRAMOXONE MAX	3	SL	0.312	LB A/A	13.3	OZ/A	OCT25	A			100	83	83	100	100	100	100	90	90	77	30	30	63	83
3	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	OCT25	A																
4	PRINCEP	90	WG	1.0	LB A/A	1.11	LB/A	OCT25	A			0	78	78	0	100	100	0	100	100	0	0	0	0	0
5	CANOPY XL	56.3	WG			4.5	OZ/A	OCT25	A			100	100	100	100	100	100	100	100	100	50	100	100	88	83
5	->CLASSIC	25	WG	0.0264	LB A/A			OCT25	A																
5	->AUTHORITY	75	WG	0.132	LB A/A			OCT25	A																
5	EXPRESS	75	WG	0.0078	LB A/A	0.166	OZ/A	OCT25	A																
5	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	OCT25	A																
6	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	OCT25	A			100	97	97	100	100	100	100	100	100	50	66	66	17	30
6	PRINCEP	90	WG	1.0	LB A/A	1.11	LB/A	OCT25	A																
7	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	OCT25	A			100	100	100	100	100	100	100	100	100	50	100	100	62	88
7	CANOPY XL	56.3	WG			4.5	OZ/A	OCT25	A																
7	->CLASSIC	25	WG	0.0264	LB A/A			OCT25	A																
7	->AUTHORITY	75	WG	0.132	LB A/A			OCT25	A																
7	EXPRESS	75	WG	0.0078	LB A/A	0.166	OZ/A	OCT25	A																
8	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	NOV15	B			50	78	78	50	100	100	50	100	100	50	77	77	27	87
9	GRAMOXONE MAX	3	SL	0.312	LB A/A	13.3	OZ/A	NOV15	B			77	87	87	77	99	99	63	66	66	77	66	66	0	62
9	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	NOV15	B																
10	PRINCEP	90	WG	1.0	LB A/A	1.11	LB/A	NOV15	B			0	0	0	0	100	100	0	97	97	0	0	0	17	78
11	CANOPY XL	56.3	WG			4.5	OZ/A	NOV15	B			50	100	100	50	100	100	50	100	100	50	93	93	90	87
11	->CLASSIC	25	WG	0.0264	LB A/A			NOV15	B																
11	->AUTHORITY	75	WG	0.132	LB A/A			NOV15	B																
11	EXPRESS	75	WG	0.0078	LB A/A	0.166	OZ/A	NOV15	B																
11	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	NOV15	B																
12	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	NOV15	B			50	93	93	50	100	100	50	100	100	50	100	100	57	0
12	PRINCEP	90	WG	1.0	LB A/A	1.11	LB/A	NOV15	B																
13	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	NOV15	B			58	100	100	58	100	100	58	100	100	50	97	97	98	28
13	CANOPY XL	56.3	WG			4.5	OZ/A	NOV15	B																
13	->CLASSIC	25	WG	0.0264	LB A/A			NOV15	B																
13	->AUTHORITY	75	WG	0.132	LB A/A			NOV15	B																
13	EXPRESS	75	WG	0.0078	LB A/A	0.166	OZ/A	NOV15	B																
14	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	DEC6	C			0	100	100	0	100	100	0	100	100	0	92	92	43	67
15	GRAMOXONE MAX	3	SL	0.312	LB A/A	13.3	OZ/A	DEC6	C			98	93	93	98	100	100	95	87	87	93	60	60	32	62
15	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	DEC6	C																
16	PRINCEP	90	WG	1.0	LB A/A	1.11	LB/A	DEC6	C			0	0	0	0	100	100	0	100	100	0	0	0	92	93

Timing of Fall Herbicide Applications.

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Weed Code		Crop Code		Rating Data Type		Rating Unit		Rating Date		Trt-Eval Interval		RANAB	RANAB	RANAB	STEME	STEME	STEME	LAMAM	LAMAM	LAMAM	ALLVI	ALLVI	ALLVI	AMBTR	SETFA
												Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control
												Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
												21 DAT	4-5-04	5-11-04	21 DAT	4-5-04	5-11-04	21 DAT	4-5-04	5-11-04	21 DAT	4-5-04	5-11-04	0 DAP	0 DAP
Trt	Treatment	Form	Form	Rate	Rate	Prod	Prod	Grow	Appl																
No.	Name	Conc	Type	Unit	Unit	Rate	Unit	Stg	Code																
17	CANOPY XL	56.3	WG			4.5	OZ/A	DEC6	C	50	100	100	50	100	100	50	100	100	50	99	99	93	98		
17	->CLASSIC	25	WG	0.0264	LB A/A			DEC6	C																
17	->AUTHORITY	75	WG	0.132	LB A/A			DEC6	C																
17	EXPRESS	75	WG	0.0078	LB A/A	0.166	OZ/A	DEC6	C																
17	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	DEC6	C																
18	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	DEC6	C	0	100	100	0	100	100	0	100	100	0	17	17	30	82		
18	PRINCEP	90	WG	1.0	LB A/A	1.11	LB/A	DEC6	C																
19	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	DEC6	C	50	100	100	50	100	100	50	100	100	50	83	83	95	96		
19	CANOPY XL	56.3	WG			4.5	OZ/A	DEC6	C																
19	->CLASSIC	25	WG	0.0264	LB A/A			DEC6	C																
19	->AUTHORITY	75	WG	0.132	LB A/A			DEC6	C																
19	EXPRESS	75	WG	0.0078	LB A/A	0.166	OZ/A	DEC6	C																
20	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	MAR15	D	92	92	92	92	92	92	92	92	92	92	0	0	0	47	17	
21	GRAMOXONE MAX	3	SL	0.312	LB A/A	13.3	OZ/A	MAR15	D	90	90	90	87	87	87	50	50	50	0	0	0	63	90		
21	ACTIVATOR 90	100	LIQ	0.25	% V/V	0.25	% V/V	MAR15	D																
22	PRINCEP	90	WG	1.0	LB A/A	1.11	LB/A	MAR15	D	0	0	0	85	85	85	0	0	0	0	0	0	0	96	96	
23	CANOPY XL	56.3	WG			4.5	OZ/A	MAR15	D	95	95	95	95	95	95	95	95	95	95	90	90	90	96	100	
23	->CLASSIC	25	WG	0.0264	LB A/A			MAR15	D																
23	->AUTHORITY	75	WG	0.132	LB A/A			MAR15	D																
23	EXPRESS	75	WG	0.0078	LB A/A	0.166	OZ/A	MAR15	D																
23	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	MAR15	D																
24	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	MAR15	D	88	88	88	95	95	95	87	87	87	0	0	0	98	93		
24	PRINCEP	90	WG	1.0	LB A/A	1.11	LB/A	MAR15	D																
25	ROUNDUP W-MAX	4.5	SL	0.75	LB AE/A	21.3	OZ/A	MAR15	D	98	98	98	98	98	98	98	98	98	98	87	87	87	98	100	
25	CANOPY XL	56.3	WG			4.5	OZ/A	MAR15	D																
25	->CLASSIC	25	WG	0.0264	LB A/A			MAR15	D																
25	->AUTHORITY	75	WG	0.132	LB A/A			MAR15	D																
25	EXPRESS	75	WG	0.0078	LB A/A	0.166	OZ/A	MAR15	D																
26	NONTREATED									0	0	0	0	0	0	0	0	0	0	0	0	0	93	86	
LSD (P=.05)										9.7	6.8	6.8	9.9	4.1	4.1	9.8	10.9	10.9	10.5	30.9	30.9	49.6	38.7		
Replicate F										0.052	1.612	1.612	0.157	2.058	2.058	0.628	1.035	1.035	2.826	1.782	1.782	0.833	0.023		
Replicate Prob(F)										0.9493	0.2097	0.2097	0.8549	0.1384	0.1384	0.5377	0.3628	0.3628	0.0687	0.1788	0.1788	0.4406	0.9775		
Treatment F										153.898	252.289	252.289	139.131	359.142	359.142	142.617	73.541	73.541	84.008	15.461	15.461	4.050	5.220		
Treatment Prob(F)										0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001	0.0001		

Trial Comments

1. Protocol: SIU.
2. Ratings: WC 21 DAT, all plots at 21 DA "D" and at planting.
3. DAT = Days after treatment. DA-D = Days after MAR15 application. DAP = Days after planting. 0 DAP = at planting.
 Ratings at 21 days after OCT25, NOV15 and DEC6 applications were on 11-14-03, 12-7-03 and 12-27-03, respectively.
 Ratings on 4-5-04 were also 164, 141 and 121 days after OCT25, NOV15 and DEC6 applications, respectively.
 Ratings on 5-11-04 were 200, 177, 157 and 57 days after OCT25, NOV15, DEC6 and MAR15 applications, respectively.