Fall Applications of Basis and Express in Corn.

02-19A-E40

OBJECTIVE: Evaluate fall applications of Basis and Express for vegetation management in conventional-till corn.

SUMMARY: All fall applied treatments provided complete control of henbit and common chickweed on April 1 and mouseear chickweed at planting. Little barley control at planting was 62 to 80% from fall applications of Basis or Express with no difference between treatments. None of the fall applied treatments controlled greater than 30% of giant foxtail and waterhemp or greater than 55% control of common ragweed at planting. All herbicide treated plots were sprayed with Basis Gold plus Callisto postemergence. By 56 days after planting (DAP) (39 to 42 days after the postemergence treatment), giant foxtail control was 77 to 88% in plots which received a fall application of Basis or Express. Giant foxtail control was significantly greater (99%) in plots treated with Leadoff preemergence compared to plots with fall applications. Common ragweed and waterhemp control 56 DAP was not affected by fall or preemergence herbicide treatments. Corn yield was similar among all herbicide treated plots.

HERBICIDES	WEEDS	CROP
BASIS 75 WG	barley, little	corn, field
BASIS GOLD 90 WG	chickweed, common	
CALLISTO 4 SC	chickweed, mouseear	
EXPRESS 75 WG	foxtail, giant	
LEADOFF 5 L	henbit	
PRINCEP 90 WG	ragweed, common	
SALVO 5 EC	waterhemp, common	

Bryan Young

PLANT, SOIL AND GENERAL AGRICULTURE DEPARTMENT

SOUTHERN ILLINOIS UNIVERSITY

Fall Applications of Basis and Express in Corn.

Project Code: 02-19A-E40 Location: Belleville Research

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country: Belleville IL 62221 USA
Trial Status: Final **Updated:** 11-4-02

Objective:
Evaluate fall applications of Basis and Express for vegetation management in conventional-till corn.

Weed	Code	Common Name	Scientific Name
1.	STEME	chickweed, common	Stellaria media (L.) Vill.
2.	LAMAM	henbit	Lamium amplexicaule L.
3.	HORPU	barley, little	Hordeum pusillum Nutt.
4.	CERVU	chickweed, mouseear	Cerastium vulgatum L.
5.	SETFA	foxtail, giant	Setaria faberi Herrm.
6.	AMBEL	ragweed, common	Ambrosia artemisiifolia L.
7.	AMATA	waterhemp, common	Amaranthus rudis Sauer

Crop 1: ZEAMX corn, field **Variety:** Pioneer 33P69LL
Planting Method: Seeded **Planting Date:** 5-27-02
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: Reduced-Till **Study Design:** Randomized complete block
Previous Crop, Year: GLXMA, 2001

Field Prep./Maintenance: N 150 LB/A, P2O5 0 LB/A, K2O 0 LB/A

Soil Name: Ebbert
Texture: Silt loam

APPLICATION DESCRIPTION

	A	B	C	D
Application Date:	11-16-01	5-31-02	6-14-02	6-17-02
Time of Day:	15:30	16:00	10:00	17:30
Application Method:	Spray	Spray	Spray	Spray
Application Timing:	FALL	PRE	2-4"W-1	2-4"W-2
Applic. Placement:	BROFOL	BROSOI	BROFOL	BROFOL
Air Temp., Unit:	70 F	90 F	76 F	82 F
% Relative Humidity:	50	48	42	30
Wind Velocity, Unit:	0 MPH	0-5 MPH	5-10 MPH	0-5 MPH
Soil Moisture:	NORMAL	NORMAL	ABONOR	NORMAL
% Cloud Cover:			20	20

CROP STAGE AT EACH APPLICATION

	A	B	C	D
Crop 1 Code, Stage:	ZEAMX NA	ZEAMX NA	ZEAMX V4	ZEAMX V5-V6
Height, Unit:	NA NA	NA NA	6 IN	12-14 IN

WEED STAGE AT EACH APPLICATION

	A	B	C	D
Weed 1 Code:	STEME			
Stage(leaves):	5-10			
Height(inches):	0-1			
Density:	Medium			
Weed 2 Code:	LAMAM			
Stage(leaves):	5-10			
Height(inches):	0-1			
Density:	Low			
Weed 3 Code:	HORPU			
Stage(leaves):	3-5			
Height(inches):	0-2			
Density:	Medium			

Weed 5 Code:	SETFA	SETFA
Stage(leaves):	1-3	1-3
Height(inches):	1-3	1-4
Density:	Medium	Medium
Weed 6 Code:	AMBEL	AMBEL
Stage(leaves):	0-4	0-4
Height(inches):	1-3	1-3
Density:	Low	Low
Weed 7 Code:	AMATA	AMATA
Stage(leaves):	1-3	1-3
Height(inches):	1-3	1-3
Density:	Low	Low

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	8003	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:

Harvested Oct-16-02, (2) 30 inch rows by 22 ft.

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Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	ZEAMX Yield bu/A 10-16-02	STEME Control Percent 3-1-02 105 DA-A	LAMAM Control Percent 3-1-02 105 DA-A	HORPU Control Percent 5-27-02 0 DAP	CERVU Control Percent 5-27-02 0 DAP	SETFA Control Percent 5-27-02 0 DAP	SETFA Control Percent 7-26-02 56 DAP	AMBEL Control Percent 5-27-02 0 DAP	AMBEL Control Percent 7-26-02 56 DAP	AMATA Control Percent 5-27-02 0 DAP	AMATA Control Percent 7-26-02 56 DAP
1	NONTREATED									78	0	0	0	90	0	0	52	0	90	0
2	BASIS	75	WG	0.0234	LB A/A	0.5	OZ/A	FALL	A	218	100	100	62	100	0	82	0	98	0	98
2	SALVO	5	EC	0.5	LB AE/A	0.8	PT/A	FALL	A											
2	HERBIMAX	100	LIQ	1.0	% V/V	1	%V/V	FALL	A											
2	BASIS GOLD	90	WG	0.788	LB A/A	14	OZ/A	2-4"W-1	C											
2	CALLISTO	4	SC	0.094	LB A/A	3	OZ/A	2-4"W-1	C											
2	HERBIMAX	100	LIQ	1.0	% V/V	1	%V/V	2-4"W-1	C											
2	AMS	100	DRY	2.5	LB A/A	2.5	LB/A	2-4"W-1	C											
3	BASIS	75	WG	0.0155	LB A/A	0.33	OZ/A	FALL	A	195	100	100	80	100	30	77	55	99	27	99
3	PRINCEP	90	WG	1.0	LB A/A	1.11	LB/A	FALL	A											
3	SALVO	5	EC	0.5	LB AE/A	0.8	PT/A	FALL	A											
3	HERBIMAX	100	LIQ	1.0	% V/V	1	%V/V	FALL	A											
3	BASIS GOLD	90	WG	0.788	LB A/A	14	OZ/A	2-4"W-1	C											
3	CALLISTO	4	SC	0.094	LB A/A	3	OZ/A	2-4"W-1	C											
3	HERBIMAX	100	LIQ	1.0	% V/V	1	%V/V	2-4"W-1	C											
3	AMS	100	DRY	2.5	LB A/A	2.5	LB/A	2-4"W-1	C											
4	BASIS	75	WG	0.0155	LB A/A	0.33	OZ/A	FALL	A	198	100	100	77	100	0	82	0	99	0	99
4	PRINCEP	90	WG	0.5	LB A/A	0.556	LB/A	FALL	A											
4	SALVO	5	EC	0.5	LB AE/A	0.8	PT/A	FALL	A											
4	HERBIMAX	100	LIQ	1.0	% V/V	1	%V/V	FALL	A											
4	BASIS GOLD	90	WG	0.788	LB A/A	14	OZ/A	2-4"W-1	C											
4	CALLISTO	4	SC	0.094	LB A/A	3	OZ/A	2-4"W-1	C											
4	HERBIMAX	100	LIQ	1.0	% V/V	1	%V/V	2-4"W-1	C											
4	AMS	100	DRY	2.5	LB A/A	2.5	LB/A	2-4"W-1	C											
5	EXPRESS	75	WG	0.0155	LB A/A	0.33	OZ/A	FALL	A	197	100	100	83	100	0	88	0	99	0	99
5	PRINCEP	90	WG	1.0	LB A/A	1.11	LB/A	FALL	A											
5	SALVO	5	EC	0.5	LB AE/A	0.8	PT/A	FALL	A											
5	HERBIMAX	100	LIQ	1.0	% V/V	1	%V/V	FALL	A											
5	BASIS GOLD	90	WG	0.788	LB A/A	14	OZ/A	2-4"W-1	C											
5	CALLISTO	4	SC	0.094	LB A/A	3	OZ/A	2-4"W-1	C											
5	HERBIMAX	100	LIQ	1.0	% V/V	1	%V/V	2-4"W-1	C											
5	AMS	100	DRY	2.5	LB A/A	2.5	LB/A	2-4"W-1	C											
6	LEADOFF	5	L	1.25	LB A/A	2	PT/A	PRE	B	215	0	0				99		99		99
6	BASIS GOLD	90	WG	0.788	LB A/A	14	OZ/A	2-4"W-2	D											
6	CALLISTO	4	SC	0.094	LB A/A	3	OZ/A	2-4"W-2	D											
6	HERBIMAX	100	LIQ	1.0	% V/V	1	%V/V	2-4"W-2	D											
6	AMS	100	DRY	2.5	LB A/A	2.5	LB/A	2-4"W-2	D											
LSD (P=.05)										31.3	0.0	0.0	56.1	8.4	43.8	4.5	48.1	1.7	38.9	1.7

Weed Code										STEME	LAMAM	HORPU	CERVU	SETFA	SETFA	AMBEL	AMBEL	AMATA	AMATA
Crop Code									ZEAMX										
Rating Data Type									Yield	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control
Rating Unit									bu/A	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date									10-16-02	3-1-02	3-1-02	5-27-02	5-27-02	5-27-02	7-26-02	5-27-02	7-26-02	5-27-02	7-26-02
Trt-Eval Interval										105 DA-A	105 DA-A	0 DAP	0 DAP	0 DAP	56 DAP	0 DAP	56 DAP	0 DAP	56 DAP
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code										
Replicate F										0.738	0.000	0.000	0.700	1.000	1.000	0.258	2.650	1.000	1.000	1.000
Replicate Prob(F)										0.5025	1.0000	1.0000	0.5247	0.4096	0.4096	0.7774	0.1309	0.4019	0.4096	0.4019
Treatment F										28.177	0.000	0.000	4.073	3.000	1.000	632.046	3.935	5484.362	10.703	5484.362
Treatment Prob(F)										0.0001	1.0000	1.0000	0.0433	0.0870	0.4609	0.0001	0.0471	0.0001	0.0027	0.0001

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Trial Comments

1. Protocol: DuPont.
2. Tillage, prior to planting when soil conditions in FALL applied plots are appropriate, was performed 5-25-02.
3. DA-A = days after FALL application. DAP = days after planting. 0 DAP = at planting.