

## Fall Applied Herbicides in Corn.

Project Code: 04-8A-S60      Location: Belleville Research Center  
 Investigator: Bryan Young

Investigator: Bryan Young, Assistant Professor, Southern Illinois University

City State Zip Country:      Belleville      IL 62221 USA  
 Trial Status: Established      Updated:      8-19-04

## Objective:

Evaluate winter annual weed management strategies prior to planting reduced-till corn.

Weed Code	Common Name	Scientific Name
1. ALLVI	garlic, wild	Allium vineale L.
2. STEME	chickweed, common	Stellaria media (L.) Vill.
3. HORPU	barley, little	Hordeum pusillum Nutt.
4. CHEAL	lambsquarters, common	Chenopodium album L.
5. AMBTR	ragweed, giant	Ambrosia trifida L.
6. SETFA	foxtail, giant	Setaria faberi Herrm.
7. AMATA	waterhemp, common	Amaranthus rudis Sauer

Crop 1:                    ZEAMX corn, field                    Variety:                    DKC 60-17 RR  
 Planting Method: Seeded                    Planting Date: 5-21-04  
 Rate:                    28000 S/A                    Depth:                    1.5 IN  
 Row Spacing:                    30 IN

Plot Width, Unit: 10 FT                    Plot Length, Unit: 23 FT                    Reps: 3  
 Tillage Type:                    Reduced-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 and 2 ton/A lime

Soil Name: Weir                    % OM: 1.8                    pH: 5.8                    CEC: 12  
 Texture: Silt loam                    Fert. Level: P1: 73 LB/A, K: 436 LB/A

## APPLICATION DESCRIPTION

	A	B	C
Application Date:	11-21-03	3-15-04	6-9-04
Time of Day:	9:00	10:00	14:00
Application Method:	Spray	Spray	Spray
Application Timing:	FALL	MAR15	V3-5
Applic. Placement:	BROFOL	BROFOL	BROFOL
Air Temp., Unit:	50 F	40 F	73 F
% Relative Humidity:	85	70	98
Wind Velocity, Unit:	5 MPH	3 MPH	3 MPH
Soil Moisture:	ABONOR	NORMAL	NORMAL

## CROP STAGE AT EACH APPLICATION

	A	B	C
Crop 1 Code, Stage:	ZEAMX NA	ZEAMX NA	ZEAMX V4
Height, Unit:	NA NA	NA NA	6-8 IN

## WEED STAGE AT EACH APPLICATION

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

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Weed 4 Code:	CHEAL	CHEAL	CHEAL
Stage (leaves):			5-6
Height (inches):			0-1
Density:			Medium
Weed 5 Code:	AMBTR	AMBTR	AMBTR
Weed 6 Code:	SETFA	SETFA	SETFA
Stage (leaves):			2-3
Height (inches):			1-2
Density:			Medium
Weed 7 Code:	AMATA	AMATA	AMATA
Stage (leaves):			4-6
Height (inches):			0.5-1
Density:			Medium

## APPLICATION EQUIPMENT

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

NOTES:

Southern Illinois University

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Weed Code	ALLVI	ALLVI	ALLVI	STEME	STEME	STEME	HORPU	HORPU	HORPU	CHEAL	AMBTR	SETFA	AMATA
Crop Code	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control
Rating Data Type	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Unit	12-12-03	4-1-04	5-21-04	12-12-03	4-1-04	5-21-04	12-12-03	4-1-04	5-21-04	5-21-04	5-21-04	5-21-04	5-21-04
Rating Date	21 DA-A	17 DA-B	0 DAP	21 DA-A	17 DA-B	0 DAP	21 DA-A	17 DA-B	0 DAP	0 DAP	0 DAP	0 DAP	0 DAP
Trt-Eval Interval													

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code	ALLVI	ALLVI	ALLVI	STEME	STEME	STEME	HORPU	HORPU	HORPU	CHEAL	AMBTR	SETFA	AMATA
1	NONTREATED									0	0	0	0	0	0	0	0	0	99	98	99	99
2	GRAMOXONE MAX	3	SL	0.56	LB A/A	1.5	PT/A	FALL	A	90	99	99	90	99	99	90	99	99	0	0	0	17
2	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	FALL	A													
2	28% UAN	100	LIQ	2.0	% V/V	2	% V/V	FALL	A													
2	STEADFAST ATZ	89.3	WG	0.78	LB A/A	14	OZ/A	V3-5	C													
2	CALLISTO	4	SC	0.0625	LB A/A	2	FL OZ/A	V3-5	C													
2	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V3-5	C													
2	AMS	100	DRY	2.0	LB/A	2	LB/A	V3-5	C													
3	TOUCHDOWN TOTAL	4.17	SC	0.78	LB AE/A	24	FL OZ/A	FALL	A	50	99	99	50	100	100	50	100	100	0	0	0	0
3	AMS	100	DRY	2.0	% W/W	2	% W/W	FALL	A													
3	STEADFAST ATZ	89.3	WG	0.78	LB A/A	14	OZ/A	V3-5	C													
3	CALLISTO	4	SC	0.0625	LB A/A	2	FL OZ/A	V3-5	C													
3	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V3-5	C													
3	AMS	100	DRY	2.0	LB/A	2	LB/A	V3-5	C													
4	ROUNDUP W-MAX	4.5	SL	0.77	LB AE/A	22	FL OZ/A	FALL	A	50	100	100	50	100	100	50	100	100	0	0	0	0
4	AMS	100	DRY	2.0	% W/W	2	% W/W	FALL	A													
4	STEADFAST ATZ	89.3	WG	0.78	LB A/A	14	OZ/A	V3-5	C													
4	CALLISTO	4	SC	0.0625	LB A/A	2	FL OZ/A	V3-5	C													
4	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V3-5	C													
4	AMS	100	DRY	2.0	LB/A	2	LB/A	V3-5	C													
5	2,4-D LV4	3.8	EC	0.475	LB A/A	1	PT/A	FALL	A	50	50	50	0	0	0	0	0	0	99	96	99	99
5	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	FALL	A													
5	STEADFAST ATZ	89.3	WG	0.78	LB A/A	14	OZ/A	V3-5	C													
5	CALLISTO	4	SC	0.0625	LB A/A	2	FL OZ/A	V3-5	C													
5	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V3-5	C													
5	AMS	100	DRY	2.0	LB/A	2	LB/A	V3-5	C													
6	PRINCEP	90	WG	1.0	LB A/A	17.8	OZ/A	FALL	A	0	0	0	0	99	99	0	72	72	99	0	99	17
6	STEADFAST ATZ	89.3	WG	0.78	LB A/A	14	OZ/A	V3-5	C													
6	CALLISTO	4	SC	0.0625	LB A/A	2	FL OZ/A	V3-5	C													
6	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V3-5	C													
6	AMS	100	DRY	2.0	LB/A	2	LB/A	V3-5	C													
7	PRINCEP	90	WG	1.0	LB A/A	17.8	OZ/A	FALL	A	90	97	97	90	100	100	90	100	100	99	17	0	0
7	GRAMOXONE MAX	3	SL	0.375	LB A/A	1	PT/A	FALL	A													
7	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	FALL	A													
7	28% UAN	100	LIQ	2.0	% V/V	2	% V/V	FALL	A													
7	STEADFAST ATZ	89.3	WG	0.78	LB A/A	14	OZ/A	V3-5	C													
7	CALLISTO	4	SC	0.0625	LB A/A	2	FL OZ/A	V3-5	C													
7	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V3-5	C													
7	AMS	100	DRY	2.0	LB/A	2	LB/A	V3-5	C													

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Crop Code													
Rating Data Type	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control	Control
Rating Unit	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent	Percent
Rating Date	12-12-03	4-1-04	5-21-04	12-12-03	4-1-04	5-21-04	12-12-03	4-1-04	5-21-04	5-21-04	5-21-04	5-21-04	5-21-04
Trt-Eval Interval	21 DA-A	17 DA-B	0 DAP	21 DA-A	17 DA-B	0 DAP	21 DA-A	17 DA-B	0 DAP	0 DAP	0 DAP	0 DAP	0 DAP

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Unit	Prod Rate	Prod Unit	Grow Stg	Appl Code														
8	PRINCEP	90	WG	1.0	LB A/A	17.8	OZ/A	FALL	A	50	100	100	50	100	100	50	100	100	99	0	0	0	
8	TOUCHDOWN TOTAL	4.17	SC	0.78	LB AE/A	24	FL OZ/A	FALL	A														
8	AMS	100	DRY	2.0	% W/W	2	% W/W	FALL	A														
8	STEADFAST ATZ	89.3	WG	0.78	LB A/A	14	OZ/A	V3-5	C														
8	CALLISTO	4	SC	0.0625	LB A/A	2	FL OZ/A	V3-5	C														
8	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V3-5	C														
8	AMS	100	DRY	2.0	LB/A	2	LB/A	V3-5	C														
9	PRINCEP	90	WG	1.0	LB A/A	17.8	OZ/A	FALL	A	50	90	90	0	100	100	0	99	99	99	95	90	75	
9	2,4-D LV4	3.8	EC	0.475	LB A/A	1	PT/A	FALL	A														
9	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	FALL	A														
9	STEADFAST ATZ	89.3	WG	0.78	LB A/A	14	OZ/A	V3-5	C														
9	CALLISTO	4	SC	0.0625	LB A/A	2	FL OZ/A	V3-5	C														
9	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V3-5	C														
9	AMS	100	DRY	2.0	LB/A	2	LB/A	V3-5	C														
10	BASIS	75	WG	0.0234	LB A/A	0.5	OZ/A	FALL	A	50	98	98	50	100	100	50	97	97	0	90	90	17	
10	2,4-D LV4	3.8	EC	0.475	LB A/A	1	PT/A	FALL	A														
10	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	FALL	A														
10	STEADFAST ATZ	89.3	WG	0.78	LB A/A	14	OZ/A	V3-5	C														
10	CALLISTO	4	SC	0.0625	LB A/A	2	FL OZ/A	V3-5	C														
10	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V3-5	C														
10	AMS	100	DRY	2.0	LB/A	2	LB/A	V3-5	C														
11	BASIS	75	WG	0.0234	LB A/A	0.5	OZ/A	FALL	A	50	100	100	50	100	100	50	100	100	99	93	93	62	
11	PRINCEP	90	WG	1.0	LB A/A	17.8	OZ/A	FALL	A														
11	2,4-D LV4	3.8	EC	0.475	LB A/A	1	PT/A	FALL	A														
11	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	FALL	A														
11	STEADFAST ATZ	89.3	WG	0.78	LB A/A	14	OZ/A	V3-5	C														
11	CALLISTO	4	SC	0.0625	LB A/A	2	FL OZ/A	V3-5	C														
11	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V3-5	C														
11	AMS	100	DRY	2.0	LB/A	2	LB/A	V3-5	C														
12	BASIS	75	WG	0.0234	LB A/A	0.5	OZ/A	MAR15	B		50	100		50	100		50	100	100	100	100	100	
12	AATREX	90	WG	1.0	LB A/A	17.8	OZ/A	MAR15	B														
12	2,4-D LV4	3.8	EC	0.475	LB A/A	1	PT/A	MAR15	B														
12	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	MAR15	B														
12	STEADFAST ATZ	89.3	WG	0.78	LB A/A	14	OZ/A	V3-5	C														
12	CALLISTO	4	SC	0.0625	LB A/A	2	FL OZ/A	V3-5	C														
12	PRIME OIL COC	100	LIQ	1.0	% V/V	1	% V/V	V3-5	C														
12	AMS	100	DRY	2.0	LB/A	2	LB/A	V3-5	C														
LSD (P=.05)										0.0	2.8	2.8	0.0	0.4	0.4	0.0	9.9	9.9	0.0	15.4	2.5	36.7	
Replicate F										0.000	0.893	0.893	0.000	2.200	2.200	0.000	1.238	1.238	0.000	0.666	1.000	1.447	
Replicate Prob(F)										1.0000	0.4238	0.4238	1.0000	0.1346	0.1346	1.0000	0.3093	0.3093	1.0000	0.5240	0.3840	0.2567	
Treatment F										0.000	1609.680	1603.792	0.000	92783.797	89528.797	0.000	132.052	129.372	0.000	85.661	3253.778	11.783	
Treatment Prob(F)										1.0000	0.0001	0.0001	1.0000	0.0001	0.0001	1.0000	0.0001	0.0001	1.0000	0.0001	0.0001	0.0001	

Trial Comments

1. Protocol: DuPont, Syngenta.
2. Ratings: WC 21 DA "A", April 1 and at planting; CI and WC 56 DAP.
3. Application "C" can be applied when grasses are 1-2 inches or V3-V5 corn, whichever is most restrictive.
4. DA-A = days after FALL application. DA-B = days after MAR15 application. DAP = Days after planting. 0 DAP = at planting.
5. Ratings on 4-1-04 were also 132 days after FALL application.  
Ratings on 5-21-04 were also 182 and 67 days after the FALL and MAR15 applications, respectively.
6. Study incomplete.