

One-pass early postemergence (EPOS) strategies for weed control in corn

Trial ID: C08-19 Study Dir.: Burns, Craft
 Conducted: Campus C-27 Investigator: Erin Burns

Planting Date: May-15-2019 **Row Spacing:** 30 IN
Variety: DKC 48-56-RIB **No. of Reps:** 4
Population: 31500 S/A **% OM:** 2.5
Soil Type: SL sandy loam **pH:** 6.1
Plot Size: 10 X 35 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: Fall chisel plowed: spring soil finished twice
Fertilizer: 300 lbs/A urea incorporated
 157 lbs/A 19-19-19 starter

Crop and Weed Description

Weed	Code	Common Name	Scientific Name
1	ANGR	mainly foxtail species	Annual grass
2	CHEAL	common lambsquarters	Chenopodium album
3	AMAPO	Powell amaranth	Amaranthus powellii
4	AMBEL	Common ragweed	Ambrosia artemisiifolia
5	ABUTH	velvetleaf	Abutilon theophrasti
Crop	Code	Common Name	
1	ZEAMX	Corn	

Application Description

Application Timing: A
Date Treated: EPOS
Time Treated: Jun-12-2019
 9:45 AM
% Cloud Cover: 40
Air Temp., Unit: 69.5 F
% Relative Humidity: 59
Wind Speed/Unit/Dir: 6.5 MPH SW
Soil Temp, Unit: 63.5 F
Leaf Moist/Dew Presence (Y/N): N
Soil Moist: 2

Crop Stage at Each Application

Crop 1 Name: A
 ZEAMX
Height:
Stage: V2

Weed Stage at Each Application

Weed 1 Name: A
 ANGR
Height: 1-3 IN (2)
Stage: 4- (5 L)
Weed 2 Name: CHEAL
Height: 1 IN
Stage: 6 L
Weed 3 Name: AMAPO
Height: 2 IN
Stage: 6 L
Weed 4 Name: AMBEL
Height: 2 IN
Stage: 6 L
Weed 5 Name: ABUTH
Height: 0.5 IN
Stage: 4 L

Weed Density

Date:	1	2	3	4	5
	Jun-12-2019	Jun-12-2019	Jun-12-2019	Jun-12-2019	Jun-12-2019
Weed Name:	ANGR	CHEAL	AMAPO	AMBEL	ABUTH
Density:	13 FT2	6 FT2	1 FT2	1 FT2	1 FT2

Application Equipment

Appl	Sprayer Type	Ground Speed	Nozzle Type	Nozzle Size	Nozzle Height	Nozzle Spacing	Boom Width	Spray Volume	Carrier	Operation Pressure
A	BKPK	3 MPH	AIXR	11003	24 "	20 "	100 "	19 GPA	WATER	32 PSI

Comments:

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Pest Code				ANGR	CHEAL	AMAPO	AMBEL	ABUTH		
Crop Type, Code			ZEAMX						ZEAMX	
Rating Date			Jun-25-2019	Jun-25-2019	Jun-25-2019	Jun-25-2019	Jun-25-2019	Jun-25-2019	Jul-11-2019	
Rating Type			injury	Control	Control	Control	Control	Control	injury	
Rating Unit			percent	percent	percent	percent	percent	percent	percent	
Trt-Eval Interval			13 DA-A	13 DA-A	13 DA-A	13 DA-A	13 DA-A	13 DA-A	29 DA-A	
Trt No.	Treatment Name	Rate Unit	Rate	Appl Code						
1	Capreno	3 fl oz/a	A	1.3	100.0	100.0	100.0	100.0	100.0	0.0
1	Degree Xtra	3 qt/a	A							
1	Roundup PowerMax	32 fl oz/a	A							
1	AMS	8.5 lb/100 gal	A							
1	Superb HC	0.5 % v/v	A							
2	Capreno	3 fl oz/a	A	0.0	100.0	100.0	100.0	100.0	100.0	0.0
2	Degree Xtra	2.25 qt/a	A							
2	Roundup PowerMax	32 fl oz/a	A							
2	AMS	8.5 lb/100 gal	A							
2	Superb HC	0.5 % v/v	A							
3	Capreno	3 fl oz/a	A	0.0	100.0	100.0	100.0	100.0	100.0	0.0
3	Degree Xtra	1.5 qt/a	A							
3	Roundup PowerMax	32 fl oz/a	A							
3	AMS	8.5 lb/100 gal	A							
3	Superb HC	0.5 % v/v	A							
4	Capreno	3 fl oz/a	A	0.0	100.0	100.0	100.0	100.0	100.0	0.0
4	Harness MAX	40 fl oz/a	A							
4	Roundup PowerMax	32 fl oz/a	A							
4	AMS	8.5 lb/100 gal	A							
4	Superb HC	0.5 % v/v	A							
5	Harness MAX	55 fl oz/a	A	1.5	100.0	100.0	100.0	100.0	100.0	0.0
5	Atrazine	1.1 lb/a	A							
5	Roundup PowerMax	32 fl oz/a	A							
5	AMS	8.5 lb/100 gal	A							
5	Superb HC	0.5 % v/v	A							
6	Untreated			0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	DiFlexx DUO	32 fl oz/a	A	0.0	100.0	100.0	100.0	100.0	100.0	0.0
7	Degree Xtra	2.25 qt/a	A							
7	Roundup PowerMax	32 fl oz/a	A							
7	AMS	8.5 lb/100 gal	A							
7	Superb HC	0.5 % v/v	A							
8	Capreno	3 fl oz/a	A	0.0	100.0	100.0	100.0	100.0	100.0	0.0
8	Atrazine	1.1 lb/a	A							
8	Roundup PowerMax	32 fl oz/a	A							
8	AMS	8.5 lb/100 gal	A							
8	Superb HC	0.5 % v/v	A							
9	Degree Xtra	3 qt/a	A	0.0	98.8	100.0	100.0	100.0	100.0	0.0
9	Roundup PowerMax	32 fl oz/a	A							
9	AMS	8.5 lb/100 gal	A							
10	Acuron	1.56 qt/a	A	0.0	100.0	100.0	100.0	100.0	100.0	0.0
10	Roundup PowerMax	32 fl oz/a	A							
10	AMS	8.5 lb/100 gal	A							
10	Surfactant	0.25 % v/v	A							
11	Resicore	1.25 qt/a	A	0.0	100.0	100.0	100.0	100.0	100.0	0.0
11	Atrazine	1.1 lb/a	A							
11	Roundup PowerMax	32 fl oz/a	A							
11	AMS	8.5 lb/100 gal	A							
11	Surfactant	0.25 % v/v	A							

Could not calculate LSD (% mean diff) for columns 3,4,7,9,10,13,15,16 because error mean square = 0.

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 Protocol ID: C08-19
 Project ID:

Location: Campus C-27 Trial Year: 2019
 Investigator: Erin Burns
 Study Director: Burns, Craft
 Sponsor Contact:

Pest Code			ZEAMX	ANGR	CHEAL	AMAPO	AMBEL	ABUTH	ZEAMX	
Crop Type, Code			Jun-25-2019	Jun-25-2019	Jun-25-2019	Jun-25-2019	Jun-25-2019	Jun-25-2019	Jul-11-2019	
Rating Date			injury	Control	Control	Control	Control	Control	injury	
Rating Type			percent	percent	percent	percent	percent	percent	percent	
Rating Unit			13 DA-A	13 DA-A	13 DA-A	13 DA-A	13 DA-A	13 DA-A	29 DA-A	
Trt-Eval Interval										
Trt No.	Treatment Name	Rate Unit	Appl Code							
12	Halex GT	1.8 qt/a	A	0.0	100.0	100.0	100.0	100.0	100.0	0.0
12	Atrazine	1.1 lb/a	A							
12	AMS	8.5 lb/100 gal	A							
12	Surfactant	0.25 % v/v	A							
13	Harness	1.75 pt/a	A	2.5	92.0	100.0	100.0	98.8	99.5	0.0
13	Impact	1 fl oz/a	A							
13	Atrazine	0.55 lb/a	A							
13	MSO	0.5 % v/v	A							
13	AMS	8.5 lb/100 gal	A							
14	Harness	1.75 pt/a	A	5.0	100.0	100.0	100.0	100.0	100.0	0.0
14	Impact	0.75 fl oz/a	A							
14	Roundup PowerMax	32 fl oz/a	A							
14	Atrazine	0.55 lb/a	A							
14	MSO	0.25 % v/v	A							
14	AMS	8.5 lb/100 gal	A							
LSD P=.05				1.63	1.86	.	.	0.96	0.38	.
Standard Deviation				1.14	1.30	0.00	0.00	0.67	0.27	0.00
CV				155.29	1.41	0.0	0.0	0.72	0.29	0.0

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Pest Code			ANGR	CHEAL	AMAPO	AMBEL	ABUTH	ZEAMX	ANGR	CHEAL	
Crop Type, Code											
Rating Date			Jul-11-2019	Jul-11-2019	Jul-11-2019	Jul-11-2019	Jul-11-2019	Jul-24-2019	Jul-24-2019	Jul-24-2019	
Rating Type			Control	Control	Control	Control	Control	injury	Control	Control	
Rating Unit			percent	percent	percent	percent	percent	percent	percent	percent	
Trt-Eval Interval			29 DA-A	29 DA-A	29 DA-A	29 DA-A	29 DA-A	42 DA-A	42 DA-A	42 DA-A	
Trt No.	Treatment Name	Rate Unit	Appl Code								
1	Capreno	3 fl oz/a	A	100.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0
1	Degree Xtra	3 qt/a	A								
1	Roundup PowerMax	32 fl oz/a	A								
1	AMS	8.5 lb/100 gal	A								
1	Superb HC	0.5 % v/v	A								
2	Capreno	3 fl oz/a	A	100.0	100.0	100.0	100.0	100.0	0.0	100.0	100.0
2	Degree Xtra	2.25 qt/a	A								
2	Roundup PowerMax	32 fl oz/a	A								
2	AMS	8.5 lb/100 gal	A								
2	Superb HC	0.5 % v/v	A								
3	Capreno	3 fl oz/a	A	100.0	100.0	100.0	100.0	100.0	0.0	99.5	100.0
3	Degree Xtra	1.5 qt/a	A								
3	Roundup PowerMax	32 fl oz/a	A								
3	AMS	8.5 lb/100 gal	A								
3	Superb HC	0.5 % v/v	A								
4	Capreno	3 fl oz/a	A	98.8	100.0	100.0	100.0	100.0	0.0	99.0	100.0
4	Harness MAX	40 fl oz/a	A								
4	Roundup PowerMax	32 fl oz/a	A								
4	AMS	8.5 lb/100 gal	A								
4	Superb HC	0.5 % v/v	A								
5	Harness MAX	55 fl oz/a	A	100.0	100.0	100.0	100.0	100.0	0.0	99.5	100.0
5	Atrazine	1.1 lb/a	A								
5	Roundup PowerMax	32 fl oz/a	A								
5	AMS	8.5 lb/100 gal	A								
5	Superb HC	0.5 % v/v	A								
6	Untreated			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	DiFlexx DUO	32 fl oz/a	A	99.5	100.0	100.0	100.0	100.0	0.0	99.0	100.0
7	Degree Xtra	2.25 qt/a	A								
7	Roundup PowerMax	32 fl oz/a	A								
7	AMS	8.5 lb/100 gal	A								
7	Superb HC	0.5 % v/v	A								
8	Capreno	3 fl oz/a	A	92.5	100.0	100.0	98.8	98.8	0.0	90.0	100.0
8	Atrazine	1.1 lb/a	A								
8	Roundup PowerMax	32 fl oz/a	A								
8	AMS	8.5 lb/100 gal	A								
8	Superb HC	0.5 % v/v	A								
9	Degree Xtra	3 qt/a	A	99.5	100.0	100.0	100.0	100.0	0.0	99.0	100.0
9	Roundup PowerMax	32 fl oz/a	A								
9	AMS	8.5 lb/100 gal	A								
10	Acuron	1.56 qt/a	A	99.5	100.0	100.0	100.0	99.5	0.0	98.8	100.0
10	Roundup PowerMax	32 fl oz/a	A								
10	AMS	8.5 lb/100 gal	A								
10	Surfactant	0.25 % v/v	A								
11	Resicore	1.25 qt/a	A	100.0	100.0	100.0	100.0	100.0	0.0	99.5	100.0
11	Atrazine	1.1 lb/a	A								
11	Roundup PowerMax	32 fl oz/a	A								
11	AMS	8.5 lb/100 gal	A								
11	Surfactant	0.25 % v/v	A								

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Pest Code			ANGR	CHEAL	AMAPO	AMBEL	ABUTH		ANGR	CHEAL	
Crop Type, Code								ZEAMX			
Rating Date			Jul-11-2019	Jul-11-2019	Jul-11-2019	Jul-11-2019	Jul-11-2019	Jul-24-2019	Jul-24-2019	Jul-24-2019	
Rating Type			Control	Control	Control	Control	Control	injury	Control	Control	
Rating Unit			percent	percent	percent	percent	percent	percent	percent	percent	
Trt-Eval Interval			29 DA-A	29 DA-A	29 DA-A	29 DA-A	29 DA-A	42 DA-A	42 DA-A	42 DA-A	
Trt No.	Treatment Name	Rate Unit	Appl Code								
12	Halex GT	1.8 qt/a	A	96.5	100.0	100.0	100.0	100.0	0.0	95.8	100.0
12	Atrazine	1.1 lb/a	A								
12	AMS	8.5 lb/100 gal	A								
12	Surfactant	0.25 % v/v	A								
13	Harness	1.75 pt/a	A	70.0	100.0	100.0	82.5	93.8	0.0	72.5	100.0
13	Impact	1 fl oz/a	A								
13	Atrazine	0.55 lb/a	A								
13	MSO	0.5 % v/v	A								
13	AMS	8.5 lb/100 gal	A								
14	Harness	1.75 pt/a	A	97.0	100.0	100.0	92.5	100.0	0.0	96.5	100.0
14	Impact	0.75 fl oz/a	A								
14	Roundup PowerMax	32 fl oz/a	A								
14	Atrazine	0.55 lb/a	A								
14	MSO	0.25 % v/v	A								
14	AMS	8.5 lb/100 gal	A								
LSD P=.05				3.89	.	.	6.80	3.09	.	4.72	.
Standard Deviation				2.72	0.00	0.00	4.75	2.16	0.00	3.30	0.00
CV				3.04	0.0	0.0	5.23	2.34	0.0	3.7	0.0

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 Protocol ID: C08-19 Investigator: Erin Burns
 Project ID: Study Director: Burns, Craft
 Sponsor Contact:

Pest Code			AMAPO	AMBEL	ABUTH	ZEAMX	ZEAMX	ZEAMX	
Crop Type, Code			Jul-24-2019	Jul-24-2019	Jul-24-2019	Oct-15-2019	Oct-15-2019	Oct-15-2019	
Rating Date			Control	Control	Control	test weight	moisture	YIELD	
Rating Type			percent	percent	percent	lbs/plot	percent	BU	
Rating Unit			42 DA-A	42 DA-A	42 DA-A	125 DA-A	125 DA-A	at 15% M	
Trt-Eval Interval									
Trt No.	Treatment Name	Rate Unit	Appl Code						
1	Capreno	3 fl oz/a	A	100.0	100.0	100.0	54.53	21.93	213.3
1	Degree Xtra	3 qt/a	A						
1	Roundup PowerMax	32 fl oz/a	A						
1	AMS	8.5 lb/100 gal	A						
1	Superb HC	0.5 % v/v	A						
2	Capreno	3 fl oz/a	A	100.0	100.0	100.0	54.03	23.03	206.6
2	Degree Xtra	2.25 qt/a	A						
2	Roundup PowerMax	32 fl oz/a	A						
2	AMS	8.5 lb/100 gal	A						
2	Superb HC	0.5 % v/v	A						
3	Capreno	3 fl oz/a	A	100.0	100.0	100.0	54.70	21.95	213.0
3	Degree Xtra	1.5 qt/a	A						
3	Roundup PowerMax	32 fl oz/a	A						
3	AMS	8.5 lb/100 gal	A						
3	Superb HC	0.5 % v/v	A						
4	Capreno	3 fl oz/a	A	100.0	100.0	100.0	53.75	22.98	212.5
4	Harness MAX	40 fl oz/a	A						
4	Roundup PowerMax	32 fl oz/a	A						
4	AMS	8.5 lb/100 gal	A						
4	Superb HC	0.5 % v/v	A						
5	Harness MAX	55 fl oz/a	A	100.0	100.0	100.0	55.00	21.28	204.2
5	Atrazine	1.1 lb/a	A						
5	Roundup PowerMax	32 fl oz/a	A						
5	AMS	8.5 lb/100 gal	A						
5	Superb HC	0.5 % v/v	A						
6	Untreated			0.0	0.0	0.0	53.63	23.60	119.5
7	DiFlexx DUO	32 fl oz/a	A	100.0	100.0	100.0	54.15	21.53	205.5
7	Degree Xtra	2.25 qt/a	A						
7	Roundup PowerMax	32 fl oz/a	A						
7	AMS	8.5 lb/100 gal	A						
7	Superb HC	0.5 % v/v	A						
8	Capreno	3 fl oz/a	A	100.0	100.0	100.0	54.78	22.25	201.4
8	Atrazine	1.1 lb/a	A						
8	Roundup PowerMax	32 fl oz/a	A						
8	AMS	8.5 lb/100 gal	A						
8	Superb HC	0.5 % v/v	A						
9	Degree Xtra	3 qt/a	A	100.0	100.0	100.0	54.25	21.88	213.1
9	Roundup PowerMax	32 fl oz/a	A						
9	AMS	8.5 lb/100 gal	A						
10	Acuron	1.56 qt/a	A	100.0	100.0	100.0	54.23	22.65	216.2
10	Roundup PowerMax	32 fl oz/a	A						
10	AMS	8.5 lb/100 gal	A						
10	Surfactant	0.25 % v/v	A						
11	Resicore	1.25 qt/a	A	100.0	100.0	100.0	54.68	21.33	228.5
11	Atrazine	1.1 lb/a	A						
11	Roundup PowerMax	32 fl oz/a	A						
11	AMS	8.5 lb/100 gal	A						
11	Surfactant	0.25 % v/v	A						

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Location: Campus C-27 Trial Year: 2019
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 Sponsor Contact:

Pest Code			AMAPO	AMBEL	ABUTH	ZEAMX	ZEAMX	ZEAMX	
Crop Type, Code			Jul-24-2019	Jul-24-2019	Jul-24-2019	Oct-15-2019	Oct-15-2019	Oct-15-2019	
Rating Date			Control	Control	Control	test weight	moisture	YIELD	
Rating Type			percent	percent	percent	lbs/plot	percent	BU	
Rating Unit			42 DA-A	42 DA-A	42 DA-A	125 DA-A	125 DA-A	at 15% M	
Trt-Eval Interval									
Trt No.	Treatment Name	Rate Unit	Appl Code						
12	Halex GT	1.8 qt/a	A	100.0	100.0	100.0	54.08	22.85	219.1
12	Atrazine	1.1 lb/a	A						
12	AMS	8.5 lb/100 gal	A						
12	Surfactant	0.25 % v/v	A						
13	Harness	1.75 pt/a	A	100.0	91.3	96.3	54.65	22.53	209.1
13	Impact	1 fl oz/a	A						
13	Atrazine	0.55 lb/a	A						
13	MSO	0.5 % v/v	A						
13	AMS	8.5 lb/100 gal	A						
14	Harness	1.75 pt/a	A	100.0	97.5	99.5	53.75	22.68	203.9
14	Impact	0.75 fl oz/a	A						
14	Roundup PowerMax	32 fl oz/a	A						
14	Atrazine	0.55 lb/a	A						
14	MSO	0.25 % v/v	A						
14	AMS	8.5 lb/100 gal	A						
LSD	P=.05			.	2.11	1.84	0.886	1.640	28.11
Standard Deviation				0.00	1.48	1.29	0.620	1.147	19.66
CV				0.0	1.61	1.39	1.14	5.14	9.6

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