

Evaluating new adjuvants used with an HPPD inhibitor in corn

Trial ID: C04-19 Study Dir.: Burns, Craft
 Conducted: Campus C-28 Investigator: Erin Burns

Planting Date: May-15-2019 **Row Spacing:** 30 IN
Variety: P9840AM **No. of Reps:** 4
Population: 32300 S/A **% OM:** 2.9
Soil Type: SL sandy loam **pH:** 5.9
Plot Size: 10 X 35 FT **Study Design:** Randomized Complete Block (RCB)

Tillage/Previous Crops: Spring 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 POST
Date Treated: Jun-18-2019
Time Treated: 11:11 AM
% Cloud Cover: 70
Air Temp., Unit: 70.9 F
% Relative Humidity: 70.6
Wind Speed/Unit/Dir: 1.4 MPH NW
Soil Temp, Unit: 70 F
Leaf Moist/Dew Presence (Y/N): N
Soil Moist: 2

Crop Stage at Each Application

Crop 1 Name: A ZEAMX
Height:
Stage: V4

Weed Stage at Each Application

Weed 1 Name: A ANGR
Height: 4 IN
Stage: 5 L
Weed 2 Name: CHEAL
Height: 3 IN
Stage: 9 L
Weed 3 Name: AMAPO
Height: 3.5 IN
Stage: 10 L
Weed 4 Name: AMBEL
Height: 3 IN
Stage: 9 L
Weed 5 Name: ABUTH
Height: 2.25 IN
Stage: 5 L

Weed Density

Date:	1	2	3	4	5
	Jun-18-2019	Jun-18-2019	Jun-18-2019	Jun-18-2019	Jun-18-2019
Weed Name:	ANGR	CHEAL	AMAPO	AMBEL	ABUTH
Density:	21 FT2	7 FT2	3 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	3.0 MPH	AIXR	11003	24 "	20 "	100 "	19 GPA	WATER	32 PSI

Comments:

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Pest Code			ZEAMX	ZEAMX	ANGR	CHEAL	AMAPO	AMBEL	ABUTH	
Crop Type, Code			Jun-22-2019	Jun-27-2019	Jun-27-2019	Jun-27-2019	Jun-27-2019	Jun-27-2019	Jun-27-2019	
Rating Date			injury	injury	Control	Control	Control	Control	Control	
Rating Type			percent	percent	percent	percent	percent	percent	percent	
Rating Unit			4 DA-A	9 DA-A	9 DA-A	9 DA-A	9 DA-A	9 DA-A	9 DA-A	
Trt-Eval Interval										
Trt No.	Treatment Name	Rate Unit	Rate	Appl Code						
1	Callisto	1.5 fl oz/a	A	0.0	0.0	83.8	90.0	100.0	97.5	100.0
1	Roundup PowerMax	11 fl oz/a	A							
2	Callisto	1.5 fl oz/a	A	0.0	0.0	85.0	85.0	100.0	97.5	100.0
2	Roundup PowerMax	11 fl oz/a	A							
2	AMS	17 lb/100 gal	A							
3	Callisto	1.5 fl oz/a	A	0.0	0.0	78.8	81.3	100.0	91.3	95.0
3	Roundup PowerMax	11 fl oz/a	A							
3	Crop oil concentrate	1 % v/v	A							
4	Callisto	1.5 fl oz/a	A	0.0	0.0	87.5	88.8	100.0	92.0	100.0
4	Roundup PowerMax	11 fl oz/a	A							
4	Flotek 3903	0.5 % v/v	A							
5	Callisto	1.5 fl oz/a	A	0.0	0.0	95.0	97.0	100.0	96.3	97.5
5	Roundup PowerMax	11 fl oz/a	A							
5	Flotek 4002	0.5 % v/v	A							
6	Untreated			0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	Callisto	1.5 fl oz/a	A	2.3	0.5	88.8	88.8	100.0	95.0	100.0
7	Roundup PowerMax	11 fl oz/a	A							
7	Flotek 3903	0.5 % v/v	A							
7	AMS	17 lb/100 gal	A							
8	Callisto	1.5 fl oz/a	A	1.5	0.5	90.0	92.5	100.0	97.5	100.0
8	Roundup PowerMax	11 fl oz/a	A							
8	Flotek 4002	0.5 % v/v	A							
8	AMS	17 lb/100 gal	A							
9	Callisto	3 fl oz/a	A	1.5	1.0	94.5	100.0	100.0	100.0	100.0
9	Roundup PowerMax	22 fl oz/a	A							
9	AMS	17 lb/100 gal	A							
10	Callisto	3 fl oz/a	A	4.0	2.0	94.5	100.0	100.0	100.0	100.0
10	Roundup PowerMax	22 fl oz/a	A							
10	Flotek 3903	0.5 % v/v	A							
10	AMS	17 lb/100 gal	A							
11	Callisto	3 fl oz/a	A	3.5	2.0	99.0	100.0	100.0	100.0	100.0
11	Roundup PowerMax	22 fl oz/a	A							
11	Flotek 4002	0.5 % v/v	A							
11	AMS	17 lb/100 gal	A							
LSD P=.05				1.21	0.77	5.56	4.72	.	7.10	4.46
Standard Deviation				0.84	0.53	3.85	3.27	0.00	4.91	3.09
CV				72.42	97.85	4.73	3.89	0.0	5.59	3.42

Could not calculate LSD (% mean diff) for columns 5,8,11,13,14 because error mean square = 0.

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Pest Code			ANGR	CHEAL	AMAPO	AMBEL	ABUTH		ANGR		
Crop Type, Code			ZEAMX					ZEAMX			
Rating Date			Jul-12-2019	Jul-12-2019	Jul-12-2019	Jul-12-2019	Jul-12-2019	Jul-25-2019	Jul-25-2019		
Rating Type			injury	Control	Control	Control	Control	injury	Control		
Rating Unit			percent	percent	percent	percent	percent	percent	percent		
Trt-Eval Interval			24 DA-A	24 DA-A	24 DA-A	24 DA-A	24 DA-A	37 DA-A	37 DA-A		
Trt No.	Treatment Name	Rate Unit	Rate	Rate	Rate	Rate	Rate	Rate	Rate		
1	Callisto	1.5 fl oz/a	A	0.0	51.3	97.5	100.0	100.0	100.0	0.0	56.3
1	Roundup PowerMax	11 fl oz/a	A								
2	Callisto	1.5 fl oz/a	A	0.0	62.5	100.0	100.0	100.0	100.0	0.0	53.8
2	Roundup PowerMax	11 fl oz/a	A								
2	AMS	17 lb/100 gal	A								
3	Callisto	1.5 fl oz/a	A	0.0	61.3	100.0	100.0	100.0	100.0	0.0	60.0
3	Roundup PowerMax	11 fl oz/a	A								
3	Crop oil concentrate	1 % v/v	A								
4	Callisto	1.5 fl oz/a	A	0.0	66.3	100.0	100.0	97.5	100.0	0.0	61.3
4	Roundup PowerMax	11 fl oz/a	A								
4	Flotek 3903	0.5 % v/v	A								
5	Callisto	1.5 fl oz/a	A	0.0	76.3	100.0	100.0	100.0	100.0	0.0	71.3
5	Roundup PowerMax	11 fl oz/a	A								
5	Flotek 4002	0.5 % v/v	A								
6	Untreated			0.0	0.0	0.0	0.0	0.0	0.0	0.0	0.0
7	Callisto	1.5 fl oz/a	A	0.0	75.0	100.0	100.0	100.0	100.0	0.0	67.5
7	Roundup PowerMax	11 fl oz/a	A								
7	Flotek 3903	0.5 % v/v	A								
7	AMS	17 lb/100 gal	A								
8	Callisto	1.5 fl oz/a	A	0.0	81.3	100.0	100.0	100.0	100.0	0.0	68.8
8	Roundup PowerMax	11 fl oz/a	A								
8	Flotek 4002	0.5 % v/v	A								
8	AMS	17 lb/100 gal	A								
9	Callisto	3 fl oz/a	A	0.0	80.0	100.0	100.0	100.0	100.0	0.0	68.8
9	Roundup PowerMax	22 fl oz/a	A								
9	AMS	17 lb/100 gal	A								
10	Callisto	3 fl oz/a	A	0.0	85.0	100.0	100.0	100.0	100.0	0.0	75.0
10	Roundup PowerMax	22 fl oz/a	A								
10	Flotek 3903	0.5 % v/v	A								
10	AMS	17 lb/100 gal	A								
11	Callisto	3 fl oz/a	A	0.0	90.0	100.0	100.0	100.0	100.0	0.0	80.0
11	Roundup PowerMax	22 fl oz/a	A								
11	Flotek 4002	0.5 % v/v	A								
11	AMS	17 lb/100 gal	A								
	LSD P=.05			.	7.10	2.18	.	2.18	.	.	6.62
	Standard Deviation			0.00	4.92	1.51	0.00	1.51	0.00	0.00	4.59
	CV			0.0	7.43	1.66	0.0	1.66	0.0	0.0	7.61

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Pest Code		CHEAL	AMAPO	AMBEL	ABUTH		
Crop Type, Code							
Rating Date		Jul-25-2019	Jul-25-2019	Jul-25-2019	Jul-25-2019		
Rating Type		Control	Control	Control	Control		
Rating Unit		percent	percent	percent	percent		
Trt-Eval Interval		37 DA-A	37 DA-A	37 DA-A	37 DA-A		
Trt No.	Treatment	Rate	Appl				
	Name	Rate Unit	Code				
1	Callisto	1.5 fl oz/a	A	97.5	97.5	96.3	97.5
1	Roundup PowerMax	11 fl oz/a	A				
2	Callisto	1.5 fl oz/a	A	100.0	100.0	93.8	100.0
2	Roundup PowerMax	11 fl oz/a	A				
2	AMS	17 lb/100 gal	A				
3	Callisto	1.5 fl oz/a	A	97.5	100.0	88.8	100.0
3	Roundup PowerMax	11 fl oz/a	A				
3	Crop oil concentrate	1 % v/v	A				
4	Callisto	1.5 fl oz/a	A	100.0	100.0	90.0	100.0
4	Roundup PowerMax	11 fl oz/a	A				
4	Flotek 3903	0.5 % v/v	A				
5	Callisto	1.5 fl oz/a	A	100.0	100.0	98.3	100.0
5	Roundup PowerMax	11 fl oz/a	A				
5	Flotek 4002	0.5 % v/v	A				
6	Untreated			0.0	0.0	0.0	0.0
7	Callisto	1.5 fl oz/a	A	100.0	100.0	96.3	100.0
7	Roundup PowerMax	11 fl oz/a	A				
7	Flotek 3903	0.5 % v/v	A				
7	AMS	17 lb/100 gal	A				
8	Callisto	1.5 fl oz/a	A	100.0	100.0	96.3	100.0
8	Roundup PowerMax	11 fl oz/a	A				
8	Flotek 4002	0.5 % v/v	A				
8	AMS	17 lb/100 gal	A				
9	Callisto	3 fl oz/a	A	100.0	100.0	100.0	100.0
9	Roundup PowerMax	22 fl oz/a	A				
9	AMS	17 lb/100 gal	A				
10	Callisto	3 fl oz/a	A	100.0	100.0	100.0	100.0
10	Roundup PowerMax	22 fl oz/a	A				
10	Flotek 3903	0.5 % v/v	A				
10	AMS	17 lb/100 gal	A				
11	Callisto	3 fl oz/a	A	100.0	100.0	100.0	100.0
11	Roundup PowerMax	22 fl oz/a	A				
11	Flotek 4002	0.5 % v/v	A				
11	AMS	17 lb/100 gal	A				
LSD P=.05				3.13	2.18	8.64	2.18
Standard Deviation				2.17	1.51	5.98	1.51
CV				2.4	1.66	6.86	1.66

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