

Cadet and Permit Tank-Mixtures in Corn.

Trial ID: 08-1-ME60 Location: Belleville Res. Center

Investigator: Bryan Young, Professor, Southern Illinois University, bgyoung@siu.edu
 City State Zip Country: Belleville IL 62221 USA
 Trial Status: FINAL Initiation Date: 06-15-08

Objectives: Evaluate Cadet and Permit tank-mixtures for crop response
 and weed control in corn.

Crop 1: ZEAMD Dent corn Variety: P33K44
 Planting Method: SEED Planting Date: 06-15-08
 Rate, Unit: 28000 S/A Depth, Unit: 1.5 IN
 Row Spacing, Unit: 30 IN

Pest 1 Type: W	Code: ABUTH	Abutilon theophrasti Medicus	velvetleaf
Pest 2 Type: W	Code: AMBEL	Ambrosia artemisiifolia L.	ragweed, common
Pest 3 Type: W	Code: AMATA	Amaranthus rudis Sauer	waterhemp, common
Pest 4 Type: W	Code: GGGAN		grasses, annual
Pest 5 Type: W	Code: SETFA	Setaria faberi Herrm.	foxtail, giant
Pest 6 Type: W	Code: PANDI	Panicum dichotomiflorum Michx.	panicum, fall

Plot Width, Unit: 10 FT Site Type: FIELD
 Plot Length, Unit: 28 FT Tillage Type: REDUCED-TILL
 Replications: 4 Study Design: Randomized Complete Block

Prior Crops, Year
 1. GLXMA 2007

Field Prep./Maintenance: N 150 LB/A, P205 0 LB/A, K20 100 LB/A

% OM: 1.6	Texture: SILT LOAM
pH: 6.2	Soil Name: WINFIELD
CEC: 8	Fert. Level: P1: 83 LB/A, K: 396 LB/A

Application Description

A
 Application Date: 07-04-08
 Time of Day: 13:30
 Application Method: Spray
 Application Timing: 3-5"W
 Application Placement: BROFOL
 Applied By: NRJ
 Air Temperature, Unit: 72 F
 % Relative Humidity: 92
 Wind Velocity, Unit: 3 MPH
 Dew Presence (Y/N): N
 Soil Temperature, Unit: 83 F
 Soil Moisture: ABONOR
 % Cloud Cover: 100

07-04-08
 Crop stage at application: V5
 Height Min, Max (inch): 11 13

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Pest Stage At Each Application

Application Date: 07-04-08
 Weed Code: ABUTH
 Stage Majority (leaves): 4
 Stage Min, Max: 2 5
 Height Majority: 3 IN
 Height Min, Max: 1 4
 Density, Unit: 3 FT2
 Weed Code: AMBEL
 Stage Majority (leaves): NA
 Weed Code: AMATA
 Stage Majority (leaves): 4
 Stage Min, Max: 2 4
 Height Majority: 2 IN
 Height Min, Max: 1 3
 Density, Unit: 0.5 FT2
 Weed Code: GGGAN
 Stage Majority (leaves): 3
 Stage Min, Max: 2 4
 Height Majority: 2 IN
 Height Min, Max: 1 4
 Density, Unit: 2 FT2
 Weed Code: SETFA
 Stage Majority (leaves): 3
 Stage Min, Max: 2 4
 Height Majority: 2 IN
 Height Min, Max: 1 4
 Density, Unit: 2 FT2
 Weed Code: PANDI
 Stage Majority (leaves): 3
 Stage Min, Max: 2 4
 Height Majority: 2 IN
 Height Min, Max: 1 4
 Density, Unit: 2 FT2

Application Equipment

Appl. Equipment: CO2 sprayer
 Operating Pressure: 30 PSI
 Nozzle Type: Flat fan
 Nozzle Size: XR 8002
 Boom Length, Unit: 7.5 FT
 Spray Volume, Unit: 15 GPA

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Pest Code								GGGAN	GGGAN	SETFA	PANDI					
Crop Code								ZEAMD	ZEAMD	ZEAMD						
Rating Date								07-11-08	07-18-08	07-31-08	07-31-08					
Rating Data Type								Injury	Injury	Injury	Control					
Rating Unit								Percent	Percent	Percent	Percent					
Rating Timing																
Trt-Eval Interval								7 DA-A	14 DA-A	27 DA-A	27 DA-A					
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code							
1	NONTREATED									0 f	0 d	0 a	0 f	0 e	0 c	0 e
2	CADET	0.91	EC	0.00284	lb ai/a	0.4	fl oz/a	3-5"W	A	0 f	0 d	0 a	99 a	99 a	99 a	99 a
2	ROUNDUP P-MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	3-5"W	A							
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A							
3	CADET	0.91	EC	0.00356	lb ai/a	0.5	fl oz/a	3-5"W	A	0 f	0 d	0 a	99 a	99 a	99 a	99 a
3	ROUNDUP P-MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	3-5"W	A							
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A							
4	RESOURCE	0.86	EC	0.0202	lb ai/a	3	fl oz/a	3-5"W	A	0 f	1 cd	0 a	96 a	99 a	99 a	99 a
4	ROUNDUP P-MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	3-5"W	A							
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A							
5	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	3-5"W	A	0 f	1 cd	0 a	99 a	99 a	99 a	99 a
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A							
6	NONTREATED									0 f	0 d	0 a	0 f	0 e	0 c	0 e
7	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3-5"W	A	13 e	3 bc	0 a	79 b	71 b	87 a	63 c
7	AATREX NINE-O	90	WG	1	lb ai/a	1.11	lb/a	3-5"W	A							
7	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A							
7	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A							
8	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3-5"W	A	16 d	3 bc	0 a	66 cd	46 c	50 b	35 d
8	CALLISTO	4	SC	0.0313	lb ai/a	1	fl oz/a	3-5"W	A							
8	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A							
8	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A							
9	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3-5"W	A	25 a	5 ab	0 a	65 d	55 c	65 b	50 c
9	LAUDIS	3.5	SC	0.0273	lb ai/a	1	fl oz/a	3-5"W	A							
9	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A							
9	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A							
10	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3-5"W	A	18 cd	5 ab	0 a	78 bc	76 b	99 a	53 c
10	IMPACT	2.8	SC	0.0109	lb ai/a	0.5	fl oz/a	3-5"W	A							
10	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A							
10	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A							
11	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3-5"W	A	21 b	2 bcd	0 a	48 e	34 d	54 b	35 d
11	UNITY	75	WG	0.0039	lb ai/a	0.083	oz/a	3-5"W	A							
11	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A							
11	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A							
12	YUKON	67.5	WG	0.169	lb ai/a	4	oz/a	3-5"W	A	20 bc	6 a	0 a	45 e	28 d	3 c	3 e
12	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A							
12	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A							
13	CALLISTO	4	SC	0.094	lb ai/a	3	fl oz/a	3-5"W	A	1 f	1 cd	0 a	81 b	79 b	86 a	81 b
13	AATREX NINE-O	90	WG	0.33	lb ai/a	0.367	lb/a	3-5"W	A							
13	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A							
13	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A							
LSD (P=.05)										3.0	2.6	0.0	12.1	9.9	21.2	12.8
Replicate F										3.231	1.422	0.000	4.554	3.215	0.920	2.269
Replicate Prob(F)										0.0336	0.2522	1.0000	0.0083	0.0342	0.4408	0.0971
Treatment F										89.308	4.842	0.000	65.860	111.145	29.352	75.107
Treatment Prob(F)										0.0001	0.0001	1.0000	0.0001	0.0001	0.0001	0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

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								ABUTH	ABUTH	ABUTH	AMBEL	AMBEL	AMBEL		
								07-11-08	07-18-08	07-31-08	07-11-08	07-18-08	07-31-08		
								Control	Control	Control	Control	Control	Control		
								Percent	Percent	Percent	Percent	Percent	Percent		
								7 DA-A	14 DA-A	27 DA-A	7 DA-A	14 DA-A	27 DA-A		
Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code						
1	NONTREATED									0 e	0 d	0 e	0 e	0 c	0 c
2	CADET	0.91	EC	0.00284	lb ai/a	0.4	fl oz/a	3-5"W	A	96 ab	97 b	90 d	99 a	99 ab	99 a
2	ROUNDUP P-MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	3-5"W	A						
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A						
3	CADET	0.91	EC	0.00356	lb ai/a	0.5	fl oz/a	3-5"W	A	95 ab	96 b	97 b	99 ab	99 a	98 ab
3	ROUNDUP P-MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	3-5"W	A						
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A						
4	RESOURCE	0.86	EC	0.0202	lb ai/a	3	fl oz/a	3-5"W	A	95 ab	97 b	94 c	98 ab	99 ab	99 ab
4	ROUNDUP P-MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	3-5"W	A						
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A						
5	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	3-5"W	A	92 bc	93 c	90 d	98 ab	98 b	97 b
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A						
6	NONTREATED									0 e	0 d	0 e	0 e	0 c	0 c
7	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3-5"W	A	93 bc	99 a	98 ab	99 ab	99 a	99 a
7	AATREX NINE-O	90	WG	1	lb ai/a	1.11	lb/a	3-5"W	A						
7	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A						
7	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A						
8	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3-5"W	A	93 bc	99 a	99 a	97 bcd	99 a	99 a
8	CALLISTO	4	SC	0.0313	lb ai/a	1	fl oz/a	3-5"W	A						
8	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A						
8	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A						
9	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3-5"W	A	90 c	99 a	99 a	98 abc	99 a	99 a
9	LAUDIS	3.5	SC	0.0273	lb ai/a	1	fl oz/a	3-5"W	A						
9	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A						
9	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A						
10	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3-5"W	A	93 bc	99 a	99 a	96 cd	99 a	99 a
10	IMPACT	2.8	SC	0.0109	lb ai/a	0.5	fl oz/a	3-5"W	A						
10	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A						
10	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A						
11	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3-5"W	A	92 bc	99 a	99 a	96 cd	99 a	99 a
11	UNITY	75	WG	0.0039	lb ai/a	0.083	oz/a	3-5"W	A						
11	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A						
11	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A						
12	YUKON	67.5	WG	0.169	lb ai/a	4	oz/a	3-5"W	A	85 d	99 a	99 a	96 d	99 a	99 a
12	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A						
12	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A						
13	CALLISTO	4	SC	0.094	lb ai/a	3	fl oz/a	3-5"W	A	98 a	99 a	99 a	99 a	99 a	99 a
13	AATREX NINE-O	90	WG	0.33	lb ai/a	0.367	lb/a	3-5"W	A						
13	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A						
13	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A						
LSD (P=.05)							4.3	1.2	2.1	1.3	0.8	1.9			
Replicate F							1.082	1.474	0.635	11.062	1.929	2.482			
Replicate Prob(F)							0.3692	0.2380	0.5971	0.0001	0.1424	0.0765			
Treatment F							540.860	7999.365	2400.836	6615.576	16748.806	3150.074			
Treatment Prob(F)							0.0001	0.0001	0.0001	0.0001	0.0001	0.0001			

Means followed by same letter do not significantly differ (P=.05, LSD)

Cadet and Permit Tank-Mixtures in Corn.

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Location: Belleville Res. Center

Pest Code	AMATA	AMATA	AMATA
Crop Code			
Rating Date	07-11-08	07-18-08	07-31-08
Rating Data Type	Control	Control	Control
Rating Unit	Percent	Percent	Percent
Rating Timing			
Trt-Eval Interval	7 DA-A	14 DA-A	27 DA-A

Trt No.	Treatment Name	Form Conc	Form Type	Rate	Rate Unit	Other Rate	Other Rate Unit	Growth Stage	Appl Code			
1	NONTREATED									0 e	0 d	0 c
2	CADET	0.91	EC	0.00284	lb ai/a	0.4	fl oz/a	3-5"W	A	95 bc	95 a	94 a
2	ROUNDUP P-MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	3-5"W	A			
2	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A			
3	CADET	0.91	EC	0.00356	lb ai/a	0.5	fl oz/a	3-5"W	A	98 ab	96 a	96 a
3	ROUNDUP P-MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	3-5"W	A			
3	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A			
4	RESOURCE	0.86	EC	0.0202	lb ai/a	3	fl oz/a	3-5"W	A	98 ab	99 a	93 a
4	ROUNDUP P-MAX	4.5	SL	0.56	lb ae/a	16	fl oz/a	3-5"W	A			
4	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A			
5	ROUNDUP P-MAX	4.5	SL	0.75	lb ae/a	21.3	fl oz/a	3-5"W	A	98 ab	98 a	90 a
5	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A			
6	NONTREATED									0 e	0 d	0 c
7	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3-5"W	A	97 ab	96 a	91 a
7	AATREX NINE-O	90	WG	1	lb ai/a	1.11	lb/a	3-5"W	A			
7	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A			
7	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A			
8	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3-5"W	A	97 ab	99 a	99 a
8	CALLISTO	4	SC	0.0313	lb ai/a	1	fl oz/a	3-5"W	A			
8	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A			
8	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A			
9	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3-5"W	A	97 ab	98 a	99 a
9	LAUDIS	3.5	SC	0.0273	lb ai/a	1	fl oz/a	3-5"W	A			
9	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A			
9	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A			
10	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3-5"W	A	88 d	89 b	55 b
10	IMPACT	2.8	SC	0.0109	lb ai/a	0.5	fl oz/a	3-5"W	A			
10	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A			
10	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A			
11	PERMIT	75	WG	0.0314	lb ai/a	0.67	oz/a	3-5"W	A	86 d	80 c	70 b
11	UNITY	75	WG	0.0039	lb ai/a	0.083	oz/a	3-5"W	A			
11	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A			
11	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A			
12	YUKON	67.5	WG	0.169	lb ai/a	4	oz/a	3-5"W	A	92 c	88 b	99 a
12	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A			
12	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A			
13	CALLISTO	4	SC	0.094	lb ai/a	3	fl oz/a	3-5"W	A	99 a	99 a	99 a
13	AATREX NINE-O	90	WG	0.33	lb ai/a	0.367	lb/a	3-5"W	A			
13	PRIME OIL COC	100	SL	1	% v/v	1	% v/v	3-5"W	A			
13	N-PAK AMS	100	SL	5	% v/v	5	% v/v	3-5"W	A			

LSD (P=.05)

3.7 4.6 15.0

Replicate F

1.571 2.212 0.899

Replicate Prob(F)

0.2134 0.1035 0.4512

Treatment F

749.833 491.479 47.333

Treatment Prob(F)

0.0001 0.0001 0.0001

Means followed by same letter do not significantly differ (P=.05, LSD)

Trial Comments

1. Protocol: FMC; Gowan (D-PER-08-10-5).
2. Ratings: CI at 7, 14 + 28 DAT; describe symptomology or rate individual injury symptoms; WC at 7, 14 + 28 DAT.
3. Photos appreciated if injury symptoms are significant.

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4. Blanket PRE application of Dual II Magnum (0.75 pt/A) to entire area 10 ft wide on 06-15-08.
5. Crop injury was stunting and additionally for treatment 9, bleaching.
6. DA-A = Days after the 3-5"W application.
GGGAN = Annual grasses including SETFA and PANDI.
7. At the Belleville Research Center the above normal rainfall in spring 2008 (no more than four consecutive rain-free days between March 22 and June 15) delayed corn and soybean planting until mid-June.
8. Not harvested.