

### Tembotrione tank-mixed with desposition aids (S0919)

A field study was initiated near Clay Center, Nebraska to evaluate the addition of deposition aids or drift retardants tank mixes effect on tembotrione efficacy. The experimental design was a randomized complete block with four replications. Plots were 10 feet wide and 30 feet long and were located on a silt loam soil with an organic matter content of 2.5% and ph of 6.5. Corn, Pioneer '34F97' RR2/LL was planted 29,600 seeds per acre on May 6 and emerged on May 18. Herbicides were applied MPOST on June 3. Herbicides were applied with a tractor-mounted sprayer calibrated to deliver 15 gallons of water per acre at 30 PSI using AIXR 110015 flat spray nozzles. The environmental conditions at the time of herbicide application are given in Table 1. Rainfall received 10 days before and 10 days after herbicide applications is listed in Table 2. Plots received 13.97 inches of rain and 8.25 inches of irrigation water applied by sprinkler during growing season.

Primary weeds consisted of giant foxtail (SETFA), common waterhemp (AMATA), velvetleaf (ABUTH) and common lambsquarters (CHEAL) at average densities of 6, 12, 3, and 5 plants per square foot.

The Capreno + atrazine caused some stunting 7 DAT, but by 16 DAT, the effect was no longer evident.

The drift retardants did not increase nor decrease control of giant foxtail, common waterhemp, velvetleaf, or common lambsquarters compared to the standard of Laudis + atrazine + MSO + AMS.

Overall average corn yield across treatments was 241.4 bu/A. Corn yield in the untreated plots averaged 144.1 bu/A. There was no statistical difference in corn yield between treatments (Table 3A and 3B).

Table 1. Environmental conditions at the Time of Herbicide Application.

Appl Date	Air Temperature (F)	Humidity (%)	Wind Speed & direction (mph)	Time of day	Application Timing	Weed and Corn heights (inches)				
						SETFA	AMATA	ABUTH	CHEAL	CORN
June 3	70	26	7 NE	3:20 pm	MPOST	4.0	6.0	5.0	6.0	8.0

Table 2. Rainfall received 10 days before and after herbicide application.

Date (June 3)	Amount (in)	
May 26	0.17	
June 1	0.62	
June 5	0.16	
June 6	0.52	
June 9	0.16	
June 10	0.06	
June 12	0.30	

Table 3A. Tembotrione tank-mixed with deposition aides (S0919)

Treatment Name	Rate	Rate Unit	Growth Stage	ZEAMX	SETFA	AMATA	CHEAL	SETFA	AMATA	CHEAL
				6/11/2009 PHYSTU 0-100	6/13/2009 CONTRO %	6/13/2009 CONTRO %	6/13/2009 CONTRO %	6/19/2009 CONTRO %	6/19/2009 CONTRO %	6/19/2009 CONTRO %
LAUDIS	3	FL OZ/A	MIPOWE	8	84	91	95	75	98	100
Atrazine	8.9	OZ/A	MIPOWE							
MSO	1	% V/V	MIPOWE							
AMS			MIPOWE							
CAPRENO	3	FL OZ/A	MIPOWE	20	86	90	94	80	98	100
Atrazine	8.9	OZ/A	MIPOWE							
MSO	1	% V/V	MIPOWE							
AMS	8.5	LB AI/100 GAL	MIPOWE							
LAUDIS	3	FL OZ/A	MIPOWE	0	86	94	98	84	100	100
Atrazine	8.9	OZ/A	MIPOWE							
MSO	1	% V/V	MIPOWE							
AMS	8.5	LB AI/100 GAL	MIPOWE							
INTERLOCK	4	FL OZ/A	MIPOWE							
LAUDIS	3	FL OZ/A	MIPOWE	0	90	94	95	85	99	100
Atrazine	8.9	OZ/A	MIPOWE							
MSO	1	% V/V	MIPOWE							
AMS	8.5	LB AI/100 GAL	MIPOWE							
GROUNDDED	1	% V/V	MIPOWE							
LAUDIS	3	FL OZ/A	MIPOWE	0	81	91	95	79	97	99
Atrazine	8.9	OZ/A	MIPOWE							
MSO	1	% V/V	MIPOWE							
ARRAY	9	LB/100 GAL	MIPOWE							

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Treatment Name	Rate	Rate Unit	Growth Stage	ZEAMX	SETFA	AMATA	CHEAL	SETFA	AMATA	CHEAL
				6/11/2009 PHYSTU 0-100	6/13/2009 CONTRO %	6/13/2009 CONTRO %	6/13/2009 CONTRO %	6/19/2009 CONTRO %	6/19/2009 CONTRO %	6/19/2009 CONTRO %
LAUDIS	3	FL OZ/A	MIPOWE	0	86	91	95	75	98	100
Atrazine	8.9	OZ/A	MIPOWE							
MSO	1	% V/V	MIPOWE							
AMS	8.5	LB AI/100 GAL	MIPOWE							
GARDIAN PLUS	0.5	% V/V	MIPOWE							
UNTREATED				0	0	0	0	0	0	0
LSD (P=.05)				12.2	6.8	5.5	5.7	18	2.1	1.4

Table 3B. Tembotrione tank-mixed with deposition aides (S0919)

Treatment Name	Rate	Rate Unit	Growth Stage	SETFA	ABUTH	AMATA	CHEAL	ZEAMX
				7/14/2009 CONTRO %	7/14/2009 CONTRO %	7/14/2009 CONTRO %	7/14/2009 CONTRO %	11/10/2009 YIELD bu/A
LAUDIS		3 FL OZ/A	MIPOWE	71	100	99	100	245.0
Atrazine	8.9	OZ/A	MIPOWE					
MSO	1	% V/V	MIPOWE					
AMS			MIPOWE					
CAPRENO		3 FL OZ/A	MIPOWE	73	100	98	100	234.0
Atrazine	8.9	OZ/A	MIPOWE					
MSO	1	% V/V	MIPOWE					
AMS	8.5	LB AI/100 GAL	MIPOWE					
LAUDIS		3 FL OZ/A	MIPOWE	79	100	99	100	247.2
Atrazine	8.9	OZ/A	MIPOWE					
MSO	1	% V/V	MIPOWE					
AMS	8.5	LB AI/100 GAL	MIPOWE					
INTERLOCK	4	FL OZ/A	MIPOWE					
LAUDIS		3 FL OZ/A	MIPOWE	77	99	98	100	238.9
Atrazine	8.9	OZ/A	MIPOWE					
MSO	1	% V/V	MIPOWE					
AMS	8.5	LB AI/100 GAL	MIPOWE					
GROUNDED	1	% V/V	MIPOWE					
LAUDIS		3 FL OZ/A	MIPOWE	64	99	98	100	236.2
Atrazine	8.9	OZ/A	MIPOWE					
MSO	1	% V/V	MIPOWE					
ARRAY	9	LB/100 GAL	MIPOWE					

Table 3B. Tembotrione tank-mixed with deposition aides (S0919)

Treatment Name	Rate	Rate Unit	Growth Stage	SETFA	ABUTH	AMATA	CHEAL	ZEAMX
				7/14/2009	7/14/2009	7/14/2009	7/14/2009	11/10/2009
				CONTRO	CONTRO	CONTRO	CONTRO	YIELD
				%	%	%	%	bu/A
LAUDIS	3	FL OZ/A	MIPOWE	63	100	99	100	246.9
Atrazine	8.9	OZ/A	MIPOWE					
MSO	1	% V/V	MIPOWE					
AMS	8.5	LB AI/100 GAL	MIPOWE					
GARDIAN PLUS	0.5	% V/V	MIPOWE					
UNTREATED				0	0	0	0	144.1
LSD (P=.05)				20.9	0.9	1.7	0	25.18