

Foramsulfuron and foramsulfuron&iodosulfuron tank mixes for corn. Sellers, Brent A., Jim D. Wait, Jianmei Li, and Reid J. Smeda. The objective of this study was to evaluate potential tank mix partners for foramsulfuron and foramsulfuron&iodosulfuron. This study was conducted at the Agronomy Research Center near Columbia, MO. The soil was a Mexico silt loam with a pH of 6.5 and 2.6% organic matter. 'NK 7070 LL' glufosinate-resistant corn was planted 2.0-inch deep on May 22 in 30-inch rows. Treatments were arranged in a randomized complete block design with four replications of 5 by 35 foot plots. Herbicide applications were made with a CO₂ backpack sprayer equipped with XR8002 flat fan nozzles calibrated to deliver 15 GPA at 21 PSI.

Application data are listed below:

Date	June 12
Application	1-2"W
Temperature (F)	
air	80
soil	80
Soil moisture	moist
Wind (mph)	5.5
Cloud cover	100
Relative humidity (%)	75
Precipitation after application	
week 1 (inch)	0.74
week 2 (inch)	3.65
Corn	
stage	V3
height (inch)	7
Giant Foxtail	
leaf no.	2
height (inch)	2
infestation (sq. ft.)	32
Common cocklebur	
no. nodes	1
height (inch)	1
infestation (sq. ft.)	4
Common ragweed	
no. nodes	2
height (inch)	2
infestation (sq. ft.)	20
Common waterhemp	
no. nodes	2
height (inch)	2
infestation (sq. ft.)	16
Pennsylvania smartweed	
no. nodes	2
height (inch)	2
infestation (sq. ft.)	16

Crop injury at eight days after treatment was 15% in the foramsulfuron+dicamba&diflufenzopyr treatment, but was $\leq 5\%$ in all other treatments. By 36 days after treatment, no crop injury was observed. Giant foxtail control was $> 90\%$ in all treatments at both evaluation times. Control of common cocklebur was lowest in foramsulfuron+mesotrione treatments at 18 and 36 days after treatment. Common ragweed control was $< 80\%$ with foramsulfuron and nicosulfuron&rimsulfuron+mesotrione 18 days after treatment. By 36 days after treatment, common ragweed control was the lowest in the nicosulfuron&rimsulfuron+mesotrione treatment. Common waterhemp control was $\leq 5\%$ with foramsulfuron and foramsulfuron&iodosulfuron at both evaluation times. The addition of tank mix partners increased common waterhemp control 18 days after treatment with the addition of mesotrione or flufenacet+atrazine providing the greatest control and both were similar to nicosulfuron&rimsulfuron+mesotrione. By 36 days after treatment, however, common waterhemp control was reduced in the foramsulfuron+flufenacet+atrazine treatment compared to foramsulfuron&iodosulfuron+flufenacet+atrazine treatment. Pennsylvania smartweed was $\geq 83\%$ with all treatments by 36 days after treatment. (Department of Agronomy, University of Missouri-Columbia)

Table.

Application ^a	Rate (lb/A)	INJURY			SETFA		XANST		AMBEL		AMATA		POLPY	
		6-20	6-30	7-18	6-30	7-18	6-30	7-18	6-30	7-18	6-30	7-18	6-30	7-18
Untreated		0	0	0	0	0	0	0	0	0	0	0	0	0
Foramsulfuron+MSO+28%N	0.033+1.25%+3.33%	2	0	0	98	97	95	89	74	82	5	0	85	85
Foramsulfuron&iodosulfuron+MSO+28%N	0.030&0.002+1.25%+3.33%	3	3	0	98	97	100	94	93	79	0	0	95	89
Foramsulfuron+dicamba&diflufenzopyr+MSO+28%N	0.033+0.09&0.04+1.25%+3.33%	15	2	0	93	96	90	78	99	97	81	54	98	97
Foramsulfuron&iodosulfuron+dicamba&diflufenzopyr+MSO+28%N	0.030&0.002+0.09&0.04+1.25%+3.33%	5	6	0	96	91	98	96	99	99	85	75	100	100
Foramsulfuron+dicamba&halosulfuron+MSO+28%N	0.033+0.10&0.02+1.25%+3.33%	5	2	0	96	95	98	96	100	95	63	21	100	98
Foramsulfuron&iodosulfuron+dicamba&halosulfuron+MSO+28%N	0.030&0.002+0.10&0.02+1.25%+3.33%	4	6	0	99	98	100	96	100	97	51	13	99	97
Foramsulfuron+mesotrione+MSO+28%N	0.033+0.06+1.25%+3.33%	5	1	0	95	96	83	64	87	95	99	97	100	100
Foramsulfuron&iodosulfuron+mesotrione+MSO+28%N	0.030&0.002+0.06+1.25%+3.33%	4	5	0	96	97	91	96	100	100	100	100	100	100
Foramsulfuron+flufenacet+atrazine+MSO+28%N	0.033+0.23+1.0+1.25%+3.33%	3	1	0	99	99	91	81	100	100	92	76	100	83
Foramsulfuron&iodosulfuron+flufenacet+atrazine+MSO+28%N	0.030&0.002+0.23+1.0+1.25%+3.33%	5	5	0	99	98	94	90	99	100	99	98	100	100
Nicosulfuron&rimsulfuron+mesotrione+COC+28%N	0.023&0.012+0.05+1.67%+3.33%	5	2	0	100	100	94	90	79	61	97	96	100	100
LSD (0.05)		9	3	0	4	4	8	14	8	16	12	27	9	19

MSO=SoyPlus, methylated seed oil from MFA Crop Advantage.

AMS=ammonium sulfate from MFA Crop Advantage

28% N=liquid fertilizer 28-0-0 from MFA Crop Advantage.

COC=Relay, crop oil concentrate from MFA Crop Advantage.