Sweet corn tolerance to postemergence applications of foramsulfuron. Trower, Timothy L. and Chris M. Boerboom. The purpose of this study was to investigate the tolerance of foramsulfuron, applied alone and as tank mixtures, to Legacy and Super Sweet Jubilee Plus sweet corn. Foramsulfuron was applied at 0.55 oz/a alone and tank mixed with either halosulfuron at 0.5 oz/a, mesotrione at 1.5 oz/a or dicamba&diflufenzopyr at 1.4 oz/a. Plots were maintained weed-free by mechanical cultivation. The study was conducted at the University of Wisconsin Arlington Research station on a Plano silt loam with a pH of 6.3 and 3.2% organic matter. Sweet corn varieties were planted in blocks with the herbicide treatments completely randomized within the blocks. Plots were 10 by 25 foot and replicated four times. Herbicide applications were made with a CO_2 backpack sprayer calibrated at 20 gpa and equipped with XR8003 nozzles. Application data were as follows:

Date	6/28/03
Treatment	POST
Spray	
gpa	20
psi	23
mph	3
Temperature (F)	
air	76
soil	72
Soil moisture (surface)	moist
Wind/direction (mph)	2-5, SW
Relative humidity (%)	60
Cloud cover (%)	30
Sweet corn:	
Legacy	
leaf no.	V4
height (inch)	8-11
Super Sweet Jubilee Plus	
leaf no.	V4
height (inch)	6-9

Significant crop stunting was observed with all foramsulfuron treatments applied on Legacy sweet corn. Stunting ranged from 16% to 19% 5 days after application with foramsulfuron applied alone or tank mixed with halosulfuron, dicamba&diflufenzopyr, or mesotrione. Height measurements taken 30 days after application showed a reduction of 7% to 10% with the foramsulfuron treatments when compared to the untreated. Halosulfuron applied alone caused 10% stunting 5 days after application and a 9% height reduction compared to the untreated 30 days after application. No significant stunting was noted with mesotrione or dicamba&diflufenzopyr applied alone. Tank mixing foramsulfuron with mesotrione reduced chlorosis compared to mesotrione applied alone. Few differences in sweet corn yields were observed among treatments. Yields with foramsulfuron treatments were equal to the untreated. Foramsulfuron applied alone and tank mixed with halosulfuron or mesotrione yielded more than foramsulfuron tank mixed with dicamba&diflufenzopyr. Foramsulfuron tank mixed with halosulfuron yielded more than halosulfuron applied alone.

All treatments, with the exception of mesotrione, caused significant crop stunting 5 days after application when applied to Super Sweet Jubilee Plus. Stunting caused by foramsulfuron applied alone or as tank mixtures ranged from 25% to 29% when evaluated 5 days after application while halosulfuron and dicamba&diflufenzopyr caused 20% and 14% stunting, respectively. Foramsulfuron applied alone did not decrease plant height when compared to the untreated 30 days after application; however, significant decreases in plant height were noted with all foramsulfuron tank mixes. Tank mixing foramsulfuron with mesotrione reduced chlorosis 23% compared to mesotrione applied alone. Reductions in sweet corn yields compared to the untreated were observed with foramsulfuron tank mixtures with mesotrione or dicamba&diflufenzopyr and halosulfuron applied. Foramsulfuron tank mixed with halosulfuron yielded more than halosulfuron applied alone. (Department of Agronomy, University of Wisconsin-Madison).

Table 1. Postemergence tolerance of foramsulfuron on Legacy sweet corn. (Trower and Boerboom)

		ZEAMS				
		Chlorosis	Stunting	Stunting	Height	Yield
Treatment[a]	Rate	July 3	July 3	July 14	July 28	September 2
	(oz/a)	----------(%)----------			--(inch)--	-----(t/a)-----
Untreated		0	0	0	5.7	6.41
Foramsulfuron	0.55	0	19	13	5.3	6.86
Foramsulfuron+halosulfuron	0.55+0.5	0	19	15	5.3	6.86
Foramsulfuron+mesotrione	0.55+1.5	0	18	10	5.2	6.22
Foramsulfuron+dicamba&diflufenzopyr	0.55+1.4	0	16	13	5.1	6.01
Dicamba&diflufenzopyr	1.4	0	4	1	5.4	6.12
Meotrione	1.5	7	0	1	5.5	6.82
Halosulfuron	0.5	0	10	6	5.2	5.83
LSD (P=.10)		2	4	4	0.2	0.70

[a]All treatments contained MSO at 1.5 pt/a plus 28% UAN at 2 qt/a.

Table 2. Postemergence tolerance of foramsulfuron on Super Sweet Jubilee sweet corn. (Trower and Boerboom)

		ZEAMS				
		Chlorosis	Stunting	Stunting	Height	Yield
Treatment[a]	Rate	July 3	July 3	July 14	July 28	September 2
	(oz/a)	----------(%)----------			--(inch)--	-----(t/a)-----
Untreated		0	0	0	4.2	4.72
Foramsulfuron	0.55	8	25	11	4.2	4.33
Foramsulfuron+halosulfuron	0.55+0.5	8	26	13	4.0	4.16
Foramsulfuron+mesotrione	0.55+1.5	9	29	13	4.0	3.70
Foramsulfuron+dicamba&diflufenzopyr	0.55+1.4	10	26	15	3.9	3.68
Dicamba&diflufenzopyr	1.4	0	14	9	4.5	3.66
Meotrione	1.5	32	3	0	4.4	4.59
Halosulfuron	0.5	4	20	5	4.0	3.20
LSD (P=.10)		9	6	2	0.2	0.82

[a]All treatments contained MSO at 1.5 pt/a plus 28% UAN at 2 qt/a.