

Corn tolerance of AE F 130360 01 alone and with combinations of mesotrione, dicamba, and dicamba plus San 1269H. Urbana, Illinois, 2002. Bunting, Jeffrey A., Christy L. Sprague, and Douglas J. Maxwell. The objective of this research was to evaluate crop response from applications of AE F 130360 01 alone and in combination with mesotrione, dicamba, and dicamba plus San 1269H in corn. The study was established at the University of Illinois Crop Sciences Research and Education Center, Urbana. The soil was a Drummer silty-clay loam with a pH of 6.4 and 5.3% organic matter. A dicamba sensitive hybrid, Golden Harvest 2552, was planted 2 inches deep on April 17 in 30 inch rows. Treatments were arranged in randomized complete blocks with three replications of plots 10 by 30 feet. Herbicides were applied with a CO₂ backpack sprayer delivering 20 gpa and equipped with 8003 flat fan nozzles. A preemergence application of 0.85 lb/A dimethenamid-p and 1.65 lb/A atrazine on April 17 for weed control. Application information is listed below:

Date	May 15	June 4
Application	epost	post
Temperature (F)		
Air	62	85
Soil	53	78
Soil Moisture	Moist	Moist
Wind (mph)	7SE	7SW
Sky Cover (%)	0	0
Precip. after application		
Week 1 (inch)	0.89	0.51
Week 2 (inch)	1.83	1.05
Relative humidity (%)	53	78
Corn		
Leaf no.	2	6
Height (inch)	4	12

No observable corn injury was present 5 days after treatment (DAT) from the early postemergence treatment. 21 days after treatment (DAT) the early postemergence treatment of dicamba plus San 1269H injured corn 50%. When AE F130360 01, which contains a safener, was added the injury dropped to 13%. Significant corn yield differences were noted in the same comparison at the end of the season. Herbicide treatments applied at the 6-leaf corn stage provided a range of injury from 8 to 62%, 5 DAT. The higher corn injury ratings occurred when the 2X rate of dicamba plus San 1269H and the 0.50 lb/A rate of dicamba was used with MSO. Percent corn injury decreased for all treatments made at the post timing 14 DAT and again at 28 DAT. The addition of AE F130360 01 provided lower levels of corn injury when applied with only the dicamba containing products. Corn injury with the 2X rate of dicamba plus San 1269H with Activator90, a non-ionic surfactant (NIS), provided 62% crop injury, but only 15% when the 2X rate of AE F130360 01 was applied with MSO. The dicamba treatment with NIS provided 42 % crop injury and 23% when tank mixed with AE F130360 01 and MSO, 5 DAT. No positive effect was observed when AE F130360 01 was tank mixed with mesotrione. The benefit of the safener in AE F130360 01 was also observed in the early postemergence applications of dicamba plus San 1269H, but the later application resulted in minimal yield differences between treatments. There were significant differences when dicamba plus San 1269H was applied at the 1X rate with MSO, the 2X rate was applied with NIS, and the 2X rate of AE F130360 01 treatments resulting in yields lower than the untreated control plots. (Dept. of Crop Sciences, University of Illinois, Urbana).

Table. Corn tolerance of AE F 130360 01 alone and with combinations of mesotrione, dicamba, and dicamba plus San 1269H. Urbana, Illinois, 2002. (Bunting, Sprague, and Maxwell).

Treatment	Appl Rate (lb/A)	Time	Zeamd				Yield 9-24 Bu/A
			5-26	6-9	6-18	7-26	
			----- % injury -----				
Dicamba&San 1269H	0.125+0.05	post	0	33	8	0	117.2
+MSO+28%N	1.0%+1.25%						
AE F130360 01	0.033	post	0	20	8	0	125.2
+MSO+28%N	1.0%+1.25%						
Dicamba&San 1269H	0.25+0.10	post	0	40	18	8	126.4
+MSO+28%N	1.0%+1.25%						
AE F130360 01	0.066	post	0	27	13	3	117.5
+MSO+28%N	1.0%+1.25%						
Dicamba&San 1269H	0.125+0.05	post	0	17	10	0	139.6
+AE F130360 01	0.033						
+MSO+28%N	1.0%+1.25%						
Dicamba&San 1269H	0.25+0.10	post	0	15	15	2	130.4
+AE F130360 01	0.066						
+MSO+28%N	1.0%+1.25%						
Dicamba&San 1269H	0.125+0.05	post	0	22	5	0	137.6
+Activator 90+28%N	0.25%+1.25%						
Dicamba&San 1269H	0.25+0.10	post	0	62	15	3	115.7
+Activator 90+28%N	0.25%+1.25%						
Dicamba&San 1269H	0.25+0.10	epost	0	50	72	78	47.4
+MSO+28%N	2.0%+2.5%						
Dicamba&San 1269H	0.25+0.10	epost	0	13	37	37	72.0
+AE F130360 01	0.066						
+MSO+28%N	2.0%+2.5%						
Mesotrione	0.094	post	0	20	4	0	132.8
+MSO+28%N	1.0%+1.25%						
Mesotrione+AE F130360 01	0.094+0.033	post	0	18	10	0	120.6
+MSO+28%N	1.0%+1.25%						
Mesotrione	0.094	post	0	8	2	0	141.9
+Herbimax+28%N	1.0%+1.25%						
Check	-	-	0	0	0	0	145.5
Mesotrione	0.188	post	0	25	7	0	151.5
+MSO+28%N	2.0%+2.5%						
Mesotrione+AE F130360 01	0.188+0.066	post	0	28	9	0	109.7
+MSO+28%N	2.0%+2.5%						
Mesotrione	0.188	post	0	8	4	0	135.6
+Herbimax+28%N	2.0%+2.5%						
Dicamba	0.5	post	0	42	17	5	133.2
+Activator90+28%N	0.25%+1.25%						
Dicamba	0.5	post	0	58	27	12	125.7
+MSO+28%N	1.0%+1.25%						
Dicamba+AE F130360 01	0.5+0.033	post	0	23	13	0	124.0
+MSO+28%N	1.0%+1.25%						
LSD (0.05)			0	8	7	4	18