

Evaluation of Herbicide Drift or Spray Tank Contamination of Soybean at Rochester, MN, in 2010.

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The objective of this trial was to evaluate crop injury as a result of herbicide drift or spray tank contamination in soybeans in southeastern Minnesota in 2010. The research site was a Lawler loam series with a pH of 6.1, O.M of 2.4%, and soil test P and K levels of 64 ppm and 161 ppm, respectively. The field was spring disked and field cultivated once prior to planting. The soybean variety, Asgrow 2108, was planted on May 3, 2010, at a depth of 1.5 inches in 30 inch rows at 150,000 seeds an acre. A randomized complete block design was used with four replications. Post-emergence (POST) treatments were applied with a tractor-mounted sprayer delivering 20 gpa at 32 psi using Turbo Tee 11002 nozzles. Application date, environmental conditions, and crop stages are listed below. The center two rows of each plot were machine harvested on October 1, 2010.

SUMMARY: Photos of injury were taken of all treatments throughout the summer. All treatments resulted in some form of injury. Status provided the typical growth regulator injury by twisting and stunting plants. The greatest injury was observed with the 1/10 rate, which resulted in a loss of 29 bu/A compared to the untreated check. AMS caused necrotic speckling of the leaf tissue after application and interestingly, resulted in

a 3.3 bu/A increase in yield over the check. Injury from NIS was minimal, leaf puckering, and resulted in no yield difference compared to the check. (University of Minnesota Extension Regional Office, Rochester).

Date	6/22
Treatment	POST
Field Conditions	
Temperature	
Air	85
Relative Humidity (%)	63
Wind (mph)	14
Soil Moisture	adequate
Soybean	
Stage	V5
Height (inches)	10
Rainfall after each application	
Week 1	1.49
Week 2	0.27
Week 3	0.50

Table 1. Crop moisture and yield as a result of Dicamba herbicide drift contamination in soybeans at Rochester, MN, in 2010.

Treatment	Rate	Moisture	Yield
	(rate/A)	(%)	(bu/A)
Untreated check		11.8	55.4 bc
POST			
Status	1/1000 of 3 oz/a rate	11.6	53.6 cd
Status	1/100 of 3 oz/a rate	11.9	51.4 d
Status	1/10 of 3 oz/a rate	14.7	26.4 e
AMS	20 lb/a	11.6	58.7 a
NIS	1.0 % v/v	11.5	56.8 ab
LSD (P=0.10)		1.1	2.9