

Liberty & Callisto

Evaluation of Liberty and Callisto weed management systems in corn at Rochester, MN in 2002. Schaufler, Kristal L., Fritz R. Breitenbach, and Lisa M. Behnken. The objective of this trial was to evaluate Liberty and Callisto weed control performance in field corn in southeastern Minnesota. The research site was a Lawler loam soil containing 2.4% organic matter with a pH of 6.2 and soil test P and K levels of 35 and 132 ppm, respectively. The previous crop was soybean. The area was fertilized in the fall of 2001 with 200 lb/A Pel-lime, 200 lb/A potash and 8 tons/A turkey manure. The soil was disked twice and chisel plowed once. Spring tillage consisted of two passes with a field cultivator before planting. The corn hybrid, NK32-L9, was planted on May 1, 2002, at a 2-inch depth in 30-inch rows at a population of 31,000 seeds/A. Treatments were arranged in a randomized complete block design with four replications. Postemergence (POST) treatments were applied with a tractor-mounted sprayer, delivering 20 gpa at 32 psi using TurboTee 11002 nozzles. Evaluations of the plot were taken on June 14 and 25, and July 11. Application dates, environmental conditions, crop and weed stages are listed below.

<i>Date</i>	<i>June 6</i>
Treatment	POST
Temperature (F)	
air	68
soil	51
Relative humidity (%)	63
Wind (mph)	16
Soil moisture	adequate
Corn	
stage	4 collar
height (inch)	8
Giant ragweed	
weed density/ft ²	4.6
height (inch)	8
Common lambsquarters	
weed density/ft ²	5.6
height (inch)	4.4
Common waterhemp	
weed density/ft ²	12.6
height (inch)	2.75
Giant foxtail	
weed density/ft ²	12.8
height (inch)	5.25
Rainfall after application (inch)	
week 1	1.24
week 2	0.64
week 3	2.68

Excellent control of giant ragweed was achieved with tank mixes of Liberty + Callisto (at 1.0, 1.5, and 2.0 oz/A) + atrazine, Liberty + Callisto at the 2.0 oz/A, and Liberty + atrazine. Good giant ragweed control was also obtained with tank mixes of Liberty + Callisto at 1.0 and 1.5 oz/A, Liberty + Distinct, and Liberty by itself. Excellent common lambsquarters control was achieved by all treatments with the exception of Liberty + Distinct, and Liberty alone. The best common waterhemp control was achieved with tank mixes of Liberty + Callisto + atrazine, and with tank mixes of Liberty + Callisto at 1.5 and 2.0 oz/A. (Southeast District, University of Minnesota Extension Service, Rochester).

Table. Liberty and Callisto performance in corn on June 25 at Rochester, MN 2002 (Schaufler, Breitenbach, and Behnken).

Treatment	Rate	Giant ragweed control	Common lambsquarters control	Common waterhemp control	Giant foxtail control	Corn yield
	(rate/A)	(%)	(%)	(%)	(%)	(bu/A)
Liberty + AMS	28 oz+3 lb	90	83	68	84	170
Liberty + AMS	32 oz+3 lb	91	89	72	86	191
Liberty + Callisto + AMS	28 oz+1 oz+3 lb	92	98	71	86	185
Liberty + Callisto + AMS	28 oz+1.5 oz+3 lb	93	97	81	84	176
Liberty + Callisto + AMS	28 oz+2 oz+3 lb	98	98	81	86	189
Liberty + Callisto + atrazine + AMS	28 oz+1 oz+16 oz+3 lb	99	99	81	88	187
Liberty + Callisto + atrazine + AMS	28 oz+1.5 oz+16 oz+3 lb	99	99	87	89	207
Liberty + Callisto + atrazine + AMS	28 oz+2 oz+16 oz+3 lb	99	99	90	86	195
Liberty + atrazine + AMS	28 oz+24 oz+3 lb	97	99	68	88	179
Liberty + atrazine + AMS	32 oz+24 oz+3 lb	97	98	66	91	186
Liberty + Distinct+ AMS	28 oz+2 oz+3 lb	95	93	66	86	211
Untreated		0	0	0	0	0
	LSD (0.10)	3	6	9	5	31