

## Camix (Dual + Callisto) and Lumax (Dual + Callisto + Atrazine)

**Evaluation of Camix and Lumax for weed control in corn at Rochester, MN in 2002.** Behnken, Lisa M., Fritz R. Breitenbach, and Kristal L. Schaufler. The objective of this trial was to evaluate the performance of Camix (Dual + Callisto) and Lumax (Dual + Callisto + atrazine) for weed control in corn in southeastern Minnesota. The research site was a Lawler loam soil, containing 2.3% organic matter, pH of 6.2, and soil test P and K levels of 35 and 132 ppm, respectively. The previous crop was corn. In the fall of 2001, the area was fertilized with 200 lb/A Pel-lime, 200 lb/A potash, and 8 tons/A of turkey manure then disked twice and chisel plowed once. Spring tillage consisted of one pass with a field cultivator. The corn hybrid, DeKalb 39-00, was planted on April 30, 2002, at a 2-inch depth in 30-inch rows at a population of 30,000 seeds/A. A randomized complete block design with four replications was used. Preemergence (PRE) and postemergence (POST I & POST II) treatments were applied with a tractor-mounted sprayer, delivering 20 gallons per acre at 32 psi using TurboTee 11002 nozzles. Evaluations of the plot were taken on May 20 and 28, June 5 and 11, and July 11. Application dates, environmental conditions, crop and weed stages are listed below.

Date	April 30	May 29	May 31
Treatment	PRE	Post I	POST II
Temperature (F)			
air temp	60	80	72
soil temp. °F	---	---	---
Relative Humidity (%)	42	54	48
Wind (mph)	7	6	7
Soil Moisture	adequate	adequate	adequate
Corn			
Stage	---	2-collar	2+collar
height (inch)	---	4.0	5.0
Giant ragweed			
Weed density/ft <sup>2</sup>	---	10	10
height (inch)	---	2.9	4.0
Common lambsquarter			
Weed density/ft <sup>2</sup>	---	35	35
height (inch)	---	1.3	1.5
Common waterhemp			
Weed density/ft <sup>2</sup>	---	27	27
height (inch)	---	0.8	1.0
Woolly cupgrass			
Weed density/ft <sup>2</sup>	---	36	36
height (inch)	---	1.9	2.0
Rainfall after application (inch)			
Week 1	0.38	3.64	3.64
Week 2	0.64	0.89	1.24
Week 3	0.05	0.86	2.66

### Results:

1. All herbicide treatments provided exceptional (100%) control of common lambsquarters.
2. Most chemical applications afforded excellent (98-99%) control of common waterhemp. Bicep Lite II Mag and Balance Pro + Aatrex exhibited slightly less control of common waterhemp at 96% and 95% respectively.
3. Giant ragweed control
  - a. On a whole, sequential PRE/POSTII Outlook + Marksman and POST Lumax + Accent provided the greatest level of control (99-100%).
  - b. Very good control (90- 95%) was achieved with PRE Lumax at 2.5 qt and Balance Pro + Aatrex, and POSTI treatments of Camix+ Accent.
  - c. Average control (79-85%) resulted from PRE treatments of Lumax at 2.0 qt, both rates of Camix, Topnotch + Hornet, and GF688 + Aatrex.
  - d. Mediocre control (69%) was achieved with GF688 alone.
  - e. Poor control (5-33%) resulted from Bicep Lite II Mag, and Harness Xtra treatments.
4. The best woolly cupgrass control (83-91%) was achieved with POSTI treatments of Camix + Accent, and Lumax + Accent, and PRE treatments Balance Pro + Aatrex, Harness Xtra, Bicep Lite II Mag and Lumax at 2.5 qt.

5. Leaf injury ratings from June 5 were observed with PRE/POSTII Outlook/Marksman, 10%, and POSTI treatments Lumax at 2.0 qt + Accent and Lumax at 2.5 qt + Accent, 10 and 11%, respectively. However, no yield loss occurred due to this injury.
6. Yield - Control or lack of control of giant ragweed had the greatest impact on corn yield.
  - a. Treatments that resulted in 85% or greater giant ragweed control had the highest yields.
  - b. Yields were reduced when giant ragweed control dropped to 69-79%. This occurred with three PRE treatments, Camix at 1.6 qt, GF688 and GF688 + Aatrex.
  - c. Yields were severely reduced in two PRE treatments, Bicep Lite II Mag and Harness Xtra. Yields were only 33 and 30 bu/A, and giant ragweed control was only 5 and 33%, respectively.
  - d. There was one exception, POSTI Camix at 1.6 qt + Accent resulted in 91% giant ragweed control, however the yield was still slightly reduced.
 (Southeast District, University of MN Extension Service, Rochester)

Table. Performance of Camix and Lumax in corn on July 11 at Rochester, MN in 2002 (Behnken, Breitenbach, and Schaufler)

<i>Treatment</i>	<i>Rate</i>	<i>Giant ragweed control</i>	<i>Common lambsquarters control</i>	<i>Common waterhemp control</i>	<i>Woolly cupgrass control</i>	<i>Corn injury June 5</i>	<i>Corn yield</i>
	(rate/A)	(%)	(%)	(%)	(%)	(%)	(bu/A)
<b><u>Preemergence</u></b>							
Lumax	2.0 qt	85	100	99	76	0	123
Lumax	2.5 qt	93	100	98	83	0	136
Camix	1.6 qt	79	100	99	76	0	108
Camix	2.0 qt	84	100	98	78	0	123
Biceo Lite II Mag	1.5 qt	5	100	96	85	0	33
Balance Pro + Aatrex	2.25 oz + 1 qt	90	100	95	89	0	140
Harness Xtra	1.8 qt	33	100	98	89	0	30
Topnotch + Hornet	2.0 qt + 3 oz	83	100	98	76	0	119
GF688	2 qt	69	100	98	76	0	73
GF688 + Aatrex	2.0 qt + 1 qt	79	100	99	81	0	115
<b><u>Preemergence / postemergence II</u></b>							
Outlook / Marksman + COC	14 oz / 1.5 qt + 1% v/v	99	100	99	81	10	144
<b><u>Postemergence I</u></b>							
Lumax + Accent	2.0 qt + 0.33 oz	100	100	100	83	10	136
Lumax + Accent	2.5 qt + 0.33 oz	99	100	99	86	11	135
Camix + Accent	1.6 qt + 0.33 oz	91	100	98	86	2	116
Camix + Accent	2.0 qt + 0.33 oz	95	100	99	91	3	145
Untreated		0	0	0	0	0	7
	LSD (0.10)	11	0	2	8	3	27