

Steadfast & Option

Evaluation of Steadfast and Option alone and in herbicide combinations for weed control 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 the performance of Steadfast, Option, and Callisto for weed control in 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. In the spring of 2002, the field was field cultivated twice. The corn hybrid, Pioneer 37-H27, was planted on April 30, 2002, at a depth of 2 inches in 30-inch rows at 31,000 seeds/A. A randomized complete block design with four replications was used. Preemergence (PRE) and 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 May 20, June 11 and 25, 2002. Application dates, environmental conditions, crop and weed stages are listed below.

<i>Date</i>	<i>April 30</i>	<i>May 31</i>
Treatment	PRE	POST
Temperature (F)		
air	60	70
Soil	51	---
Relative humidity (%)	42	4
Wind (mph)	7	7
Soil moisture	adequate	adequate
Corn		
Stage	---	2 collar
height (inch)	---	5
Giant ragweed		
weed density/ft ²	---	15
height (inch)	---	4
Common lambsquarter		
weed density/ft ²	---	5.8
height (inch)	---	1.5
Common waterhemp		
weed density/ft ²	---	6
height (inch)	---	1
Giant ragweed		
weed density/ft ²	---	12
height (inch)	---	1.75
Rainfall after application (inch)		
week 1	0.38	3.64
week 2	0.64	1.24
week 3	0.25	2.66

Most of the treatments resulted in over 90% control of giant ragweed. Two post treatments, Steadfast + atrazine and Option alone gave only fair control, 73 and 60% respectively. Post treatments Steadfast alone gave no control of giant ragweed. Giant ragweed control with tank mixes of Steadfast + Callisto + atrazine was influenced more by atrazine rate than Callisto rate. Control of common lambsquarters was only fair with post treatments Steadfast alone. Control was improved with the addition of Dual II Magnum, atrazine and Callisto. Common waterhemp control with tank mixes of Steadfast + Callisto + atrazine was influenced more by Callisto rate than atrazine rate. Common waterhemp control with post applied Option alone and with atrazine was only fair and significantly lower than all other treatments. The highest yields were achieved with both pre/post treatments and post treatments Steadfast + Callisto + atrazine. Steadfast alone and Option alone resulted in the lowest yields, 16 and 46 bu/A respectively. (Southeast District, University of Minnesota Extension Service, Rochester).

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

<i>Treatment</i>	<i>Rate</i>	<i>Giant ragweed control</i>	<i>Common lambsquarters control</i>	<i>Common waterhemp control</i>	<i>Giant foxtail control</i>	<i>Corn yield</i>
	(rate/A)	(%)	(&)	(%)	(%)	(bu/A)
<u><i>Preemergence/Postemergence</i></u>						
Dual II Magnum / Steadfast + Callisto + atrazine + COC + AMS	1 pt/0.75 oz+1.5 oz+0.83 lb+1%+ 2 lb	98	99	96	96	186
Balance Pro / Option + atrazine + MSO + AMS	1.5 oz/1.5 oz+0.83 lb+1%+2 lb	96	99	97	94	205
<u><i>Postemergence</i></u>						
Steadfast + COC + AMS	0.75 oz+1%+2 lb	0	79	83	94	16
Steadfast + atrazine + COC + AMS	0.75 oz+0.83 lb+1%+2 lb	73	99	65	94	136
Option + MSO + AMS	1.5 oz+1%+2 lb	60	92	54	95	46
Option + atrazine + MSO+ AMS	1.5 oz+1.1 lb+1%+ 2 lb	94	99	54	94	167
Steadfast + Callisto + atrazine + COC + AMS	0.75 oz+1.5 oz+0.83 lb+1%+2 lb	95	99	87	93	175
Steadfast + Callisto + atrazine + COC + AMS	0.75 oz+1 oz+0.83 lb+1%+2 lb	98	99	93	89	212
Steadfast + Callisto + atrazine + COC + AMS	0.75 oz+2 oz+0.278 lb+1%+2 lb	94	99	93	93	187
Steadfast + Callisto + atrazine + COC + AMS	0.75 oz+2 oz+0.83 lb+1%+2 lb	98	99	94	90	204
Steadfast + Callisto + atrazine + COC + AMS	0.75 oz+3 oz+	98	98	90	92	207
Untreated		0	0	0	0	2
	LSD (0.10)	3	5	7	4	32