

Comparison of the performance of Option and Equip alone and in combination with other herbicides for weed control in field corn at Potsdam, MN in 2004.

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The objective of this trial was to compare the performance of Option and Equip alone and in combination with other herbicides for weed control in field corn in southeastern Minnesota. The research site was a Port Byron silt loam containing 3.2% organic matter with a pH of 6.7 and soil test P and K levels of 66 ppm and 376 ppm, respectively. The previous crop was soybean. The area was fertilized in the spring with 160 lb/A of nitrogen and 120 lb/A of potash. The field was disked and field cultivated once prior to planting. The corn hybrid, Pioneer 37R70 RR, was planted on May 11, 2004 at a depth of 1.5 inches in 30-inch rows at 32,000 seeds/A. A randomized complete block design with four replications was used. Postemergence (POST) treatments were applied with a tractor-mounted sprayer, delivering 20 gpa at 32 psi using Turbo Tee 11002 nozzles. Evaluations of the plots were taken on June 25, July 9, and October 29, 2004. Application dates, environmental conditions, and crop and weed stages are listed below. Giant ragweed distribution was variable at Potsdam, and dramatically affected yields.

Date	June 15
Treatment	POST
Temperature (F)	
air	72
Relative humidity (%)	53
Wind (mph)	9
Soil moisture	adequate
Corn	
stage	V3
height (inches)	12.6
Wild proso millet	
weed density	moderate
height (inch)	1.9
Common lambsquarters	
weed density	moderate
height (inch)	0.9
Velvetleaf	
weed density	light
height (inch)	1.2
Giant ragweed	
weed density	moderate
height (inch)	8.7
Rainfall after application (inch)	
week 1	1.92
week 2	0.57
week 3	1.68

Option and Equip tank mixed with Distinct provided similar control of wild proso millet to the standard Steadfast + Callisto. Paired comparisons of Option and Equip tank mixed with various broadleaf partners provided similar wild proso millet control.

Option tank mixed with Callisto and Equip tank mixed with Callisto or Northstar provided similar control of common lambsquarters to the standard Steadfast + Callisto. Paired comparisons of

Option and Equip tank mixed with various broadleaf partners provided similar control of common lambsquarters with the exception of Option plus Northstar which provided significantly lower common lambsquarters control than the Equip plus Northstar tank mix.

Option and Equip both alone and with tank mix partners provided significantly better control of giant ragweed than the Steadfast + Callisto standard (October 29 rating). Only Option applied by itself was not significantly different than the Steadfast + Callisto standard, (July 9 rating). Option alone provided significantly lower giant ragweed control than Equip applied by itself. Paired comparisons of Option and Equip tank mixed with various broadleaf partners provided similar control of giant ragweed with the exception of Option plus Callisto which provided significantly lower giant ragweed control than the Equip plus Callisto tank mix, (University of Minnesota Extension Service, Regional Center, Rochester, MN).

Table. Performance of Option and Equip alone and in combination with other herbicides on June 25, July 9, and October 29 at Potsdam, MN in 2004. (Breitenbach, Behnken, White, and Schaufler).

Treatment	Rate	Corn injury	Wild proso millet control		Common lambsquarters control		Velvetleaf control		Giant ragweed control			Corn yield
			6/25	7/9	6/25	7/9	6/25	7/9	6/25	7/9	10/29	
	(rate/A)	(%)	(%)		(%)		(%)		(%)			(bu/A)
Postemergence												
Option + MSO + 28% UAN	1.5 oz + 1.5 pts + 1.5 qts	3	80	84	80	78	80	97	64	61	65	202
Equip + MSO + 28% UAN	1.5 oz + 1.5 pts + 1.5 qts	3	80	82	80	81	80	98	61	76	79	189
Option + Distinct + MSO + 28% UAN	1.5 oz + 2 oz + 1.5 pts + 1.5 qts	5	80	88	80	86	80	98	77	95	95	209
Equip + Distinct + MSO + 28% UAN	1.5 oz + 2 oz + 1.5 pts + 1.5 qts	1	80	94	85	85	85	98	83	95	96	189
Option + Callisto + MSO + 28% UAN	1.5 oz + 2 oz + 1.5 pts + 1.5 qts	0	80	87	85	96	85	98	68	74	76	166
Equip + Callisto + MSO + 28% UAN	1.5 oz + 2 oz + 1.5 pts + 1.5 qts	4	80	87	80	94	80	98	73	88	97	200
Option + Northstar + MSO + 28% UAN	1.5 oz + 2 oz + 1.5 pts + 1.5 qts	1	80	84	80	79	80	98	77	95	98	201
Equip + Northstar + MSO + 28% UAN	1.5 oz + 3 oz + 1.5 pts + 1.5 qts	4	80	85	85	94	85	99	74	98	97	209
Steadfast + Callisto + COC + 28% UAN	0.75 oz + 2 oz + 1 qt + 1.5 qts	0	80	93	80	98	80	98	73	48	51	207
Untreated		0	0	0	0	0	0	0	0	0	0	26
LSD = (0.05)		5	0	6	7	9	7	2	9	14	8	38

MSO = methylated sunflower oil, Loveland; 28% UAN = an aqueous solution of urea and ammonium nitrate, Helena; and COC = crop oil concentrate, Helena.