

Giant Ragweed Management in Soybeans, St. Charles, MN. 1997. Breitenbach Fritz, Thomas Hoverstad, and Jeffery Gunsolus.

The objective of this study was to evaluate pre-plant incorporated, pre-emergent and post-emergence herbicides for control of giant ragweed in soybeans. The site selected for this trial was a grower's field. This research was conducted on a Mt. Carroll silt loam soil with 3.0 % organic matter. The previous crop was field corn. The field had not been worked in the fall. The field was worked in the spring with a disk and leveled with a field cultivator. Pre-plant incorporated treatments were applied, and double incorporated with a field cultivator. The field was planted with NK S20B9 soybeans on May 22 1997, in 30 inch rows at a population of 190,000 seeds per acre. The trial was a randomized complete block design replicated four times. All treatments were applied with a tractor mounted compressed air sprayer equipped with XR8002 flat-fan nozzles spaced 15 inches apart delivering 20 gpa at 32 psi. None of the treatments were cultivated. Application dates and environmental conditions, crop stage and weed heights are listed below:

Date	May 21	May 23	June 18
Treatment	PPI	Pre	Post
Temperature	61	62	67
Percent Relative Humidity	32	40	76
Percent Cloud Cover	0	25	99
Wind Speed (MPH)	8	15	12
Soil Moisture	dry	dry	dry
Soybean Stage	NA	NA	V1
Girw Height (inches)	NA	NA	5.0
Weed Density per sq ft			16

Pre-plant incorporated treatments: Treflan, Pursuit Plus, and Steel herbicides were evaluated for giant ragweed control. Treflan provide no control of giant ragweed. Pursuit Plus provided fair early season control, however, season long control declined to 45 percent (7/28 rating). Steel provided better control than Pursuit Plus with Late season ratings of 60% (7/28 rating).

Pre-plant incorporated, followed by post emergence treatments: Steel followed sequentially with First Rate, and Roundup Ultra provided excellent control with rating of 100 and 99 percent respectfully (7/28 ratings). Reflex, Cobra, and Status tank-mixed with Pursuit (applied sequentially after Prowl) were evaluated. Pursuit + Reflex provide the best control with late season ratings of 95 percent (7/28 rating). Status and Cobra offered fair control with ratings of 70 and 65 percent respectfully (7/28 ratings). Crop injury ratings were similar for all of the above treatments.

Several other post emergence treatments offered excellent control. Basagran + Reflex, and Flexstar + Pinnacle applied sequentially after Prowl provided 99 and 96 percent control respectfully (7/28 ratings).

Treflan + First Rate (PPI) followed sequentially with First Rate, and First Rate + Pinnacle also provided excellent control with rating of 100 and 98 percent respectfully (7/28 ratings). Prowl followed sequentially by Galaxy + Cobra, and Treflan followed sequentially by Roundup Ultra provided good control with 84 and 80 percent respectfully (7/28 ratings).

Pre-emergence herbicides followed by post emergence: Command ME followed sequentially by First Rate, and a 0.75X rate of Pursuit provided control of 98 and 55 percent control respectfully (7/28 rating). Dual II Mag followed by Expert + Action, and Expert Cobra provided control of 83, and 85 percent control respectfully (7/28 ratings). Broadstrike Dual followed by Expert, and Frontier followed by Galaxy offered control of 79 and 78 percent respectfully (7/28 ratings). Authority + First Rate followed by Fusion provided control of 65 percent (7/28 rating) which was similar to that of Steel.

Post-emergence treatments: Flexstar was evaluated at 12, 16, and 22.5 oz/a. Giant ragweed control was 91, 98, and 95 percent respectively (7/28 ratings). Crop injury ratings were similar at all rates. Cobra provided control of 73 percent (7/28 ratings). Expert + Roundup Ultra (12 oz/a) provided control of 88 percent control (7/28 rating). Crop injury was not evident with this treatment. Other Expert applications had significant crop injury. Presumably the difference is the use of methylated seed oil. Roundup Ultra was evaluated at 1.0, 1.0, 1.5, and 2.0 pt/acre. Giant ragweed control was 76, 68, 82, and 85 percent respectively (7/28 ratings).

Table1. Giant ragweed control in soybeans, St. Charles, MN., in 1997. (Breitenbach, Hoverstad, and Gunsolus).

Treatment	Rate	Timing	Injury (6/27)	Girw (6/19)	Girw (6/27)	Girw (7/28)
	Rate/acre		%		% Control	
Treflan	1.5 pt	PPI	0	0	0	0
Pursuit Plus	2.5 pt	PPI	0	69	75	45
Steel	3.0 pt	PPI	0	80	84	60
Steel /First Rate <u>1/</u>	3.0 pt / 0.3 oz	PPI / Post	0	83	98	100
Steel / Roundup Ultra <u>2/</u>	3.0 pt / 1.0 pt	PPI / Post	0	71	98	99
Prowl / Pursuit <u>3/</u>	3.0 pt / 1.44 oz	PPI / Post	0	0	73	63
Prowl / Pursuit + Reflex <u>3/</u>	3.0 pt / 1.44 oz + 1.0 pt	PPI / Post	15	0	100	95
Prowl / Pursuit + Cobra <u>3/</u>	3.0 pt / 1.44 oz + 6.0 oz	PPI / Post	18	0	83	70
Prowl / Pursuit + Status <u>3/</u>	3.0 pt / 1.44 oz + 14.0 oz	PPI / Post	18	0	89	65
Prowl / Basagran + Reflex <u>3/</u>	3.0 pt / 1.5 pt + 12.0 oz	PPI / Post	15	0	100	99
Prowl / Galaxy + Cobra <u>3/</u>	3.0 pt / 1.0 qt + 4.0 oz	PPI / Post	19	0	100	84
Prowl / Flexstar HL + Pinnacle <u>4/</u>	2.25 pt / 17 oz + 0.043 oz	PPI / Post	18	0	95	96
Treflan + First Rate / First Rate <u>1/</u>	1.5 pt + 0.6 oz / 0.3 oz	PPI / Post	0	78	94	100
Treflan + First Rate / First Rate + Pinnacle <u>1/</u>	1.5 pt + 0.6 oz / 0.3 oz + 0.043 oz	PPI / Post	0	83	91	98
Treflan / Roundup Ultra	1.5 pt / 1.5 pt	PPI / Post	0	0	93	80
Command ME / Pursuit <u>3/</u>	2.0 pt / 1.08 oz	Pre / Post	10	40	61	55
Command ME / First Rate + Pinnacle <u>1/</u>	2.0 pt / 0.3 oz + 0.043 oz	Pre / Post	0	50	80	98
Authority + First Rate / Fusion <u>3/</u>	8.0 oz + 0.6 oz / 8.67 oz	Pre / Post	0	84	84	69
Dual II Mag / Expert + Action <u>3/</u>	1.68 pt / 1.5 oz + .0036 lb ai	Pre / Post	19	0	91	83
Dual II Mag / Expert + Cobra <u>3/</u>	1.68 pt / 1.5 oz + 6.0 oz	Pre / Post	25	0	94	85
Broadstrike Dual / Expert <u>3/</u>	2.5 pt / 1.5 oz	Pre / Post	18	63	84	79
Frontier / Galaxy <u>5/</u>	32 oz / 1 qt	Pre / Post	11	33	83	78
Flexstar HL + Fusion <u>6/</u>	22.5 oz + 10.4 oz	Post	14	0	100	95
Flexstar HL <u>6/</u>	16.0 oz	Post	16	0	100	98
Flexstar HL <u>6/</u>	12.0 oz	Post	15	0	99	91
Cobra <u>3/</u>	6.0 oz	Post	11	0	71	73
Expert + Roundup Ultra <u>7/</u>	1.5 oz + 12.0 oz	Post	0	0	89	88
Roundup Ultra	1.0 pt	Post	0	0	85	76
Roundup Ultra	1.0 pt	Post	0	0	89	68
Roundup Ultra	1.5 pt	Post	0	0	95	82
Roundup Ultra	2.0 pt	Post	0	0	91	85
Untreated Check				0	0	0
	LSD (0.10)		4	10	8	10

1/ Activate Plus 0.125 % V/V + 28% N 2.5% V/V. 2/ AMS 2.5 lb/a. 3/ Meth Oil 1.0% V/V + 28% N 1.25% V/V. 4/ Activate Plus 0.25% V/V + 28% N 2.5% V/V. 5/ Meth Oil 1.0% V/V. 6/ Meth Oil 1.0% V/V + AMS 2.0 lb/a. 7/ Activate Plus 0.25% V/V + AMS 2.5lb/a. Riverside/Terra Meth Oil (methylated seed oil plus emulsifier), Riverside/Terra Activate Plus Non-Ionic Surfactant, 28% N = aqueous solution of urea and ammonium nitrate. AMS = sprayable ammonium sulfate