

Potato herbicide weed management trial at Becker, MN - 1997. Roger L. Becker. The objective of this experiment was to observe weed control with and potato tolerance to postemergence applications of rimsulfuron (Matrix) and metribuzin (Lexone). Treatments were applied to potatoes at two irrigated sites in Becker, MN. Applications were made as a band over a single row (15 feet long) of potatoes. Spray volume was the equivalent to 20 GPA using an 8004 nozzle at 20 psi. All treatments were replicated three times. Two varieties of potatoes, “New Leaf” and “Norland”, were treated at site #1. “Russet Burbank” was treated at site #2. Site #1 consisted of seven herbicide treatments, three of which included sequential applications. Site #2 consisted of only two herbicide treatments, mainly to observe rimsulfuron tolerance. Plots were harrowed preemergence to remove initial flushes of weeds. All application data are summarized in the table below. Injury and weed control were rated on June 21 and again on June 27.

Application Data

Date	June 4	June 21
Treatment	1-2"weeds	Sequential
Time	1:00-1:30 pm	12:00-12:10 pm
Temperature (°F)		
air	78	83
soil(2 inch)	75	62
Soil moisture	moist at 2"	moist at 1"
Wind (mph)	0-5 WSW	2-7 NW
Cloud cover (%)	25	10
Relative Humidity (%)	46	30

Potatoes

“New Leaf”		
stage	veg	early flower
ht. (inch)	5-7	14-20
dia. (inch)	5-8	canopied
“Norland”		
stage	veg	early flower
ht. (inch)	6-8	14-20
dia. (inch)	8-11	canopied
“Russet Burbank”		
stage	veg	--
ht. (inch)	6-8	--
dia. (inch)	8-12	--

Application Data (cont.)

Weeds

Wibu

height (inch)	1-2.5	--
leaf (#)	1-4	--
density (3/ft ²)	1-5	--

Colq

height (inch)	1	--
leaf (#)	1-2	--
density (3/ft ²)	0.01	--

Corw

height (inch)	1-1.5	--
leaf (#)	1-3	--
density (3/ft ²)	0.2-1	--

Qugr

height (inch)	5-7	--
leaf (#)	3-4	--
density (3/ft ²)	0.1	--

Annual Grasses

height (inch)	0.5-1	--
leaf (#)	1-2	--
density (3/ft ²)	0.1-0.5	--

Legume?

height (inch)	1-2	--
leaf (#)	1 st trifoliolate	--
density (3/ft ²)	<0.1	--

Herbicide Treatments

Site #1

<u>Treatment Number</u>	<u>Treatment (lb ai/A)</u>	<u>Rate</u>	<u>Timing</u>
1	Rimsulfuron + NIS	0.0156 + 0.25%	1-2 inch weeds
2	Rimsulfuron + NIS	0.023 + 0.25%	1-2 inch weeds
3	Rimsulfuron + NIS Rimsulfuron + NIS	0.0156 + 0.25% 0.0078 + 0.25%	1-2 inch weeds Sequential
4	Rimsulfuron + NIS Rimsulfuron + NIS	0.0156 + 0.25% 0.0156 + 0.25%	1-2 inch weeds Sequential
5	Rimsulfuron + NIS Rimsulfuron + NIS	0.023 + 0.25% 0.0156 + 0.25%	1-2 inch weeds Sequential
6	Metribuzin + NIS	0.25 + 0.125%	1-2 inch weeds
7	Metribuzin +Rimsulfuron + NIS	0.025 + 0.0156 + 0.125%	1-2 inch weeds
8	Untreated Check		

Site #2

<u>Treatment Number</u>	<u>Treatment (lb ai/A)</u>	<u>Rate</u>	<u>Timing</u>
1	Rimsulfuron + NIS	0.0156 + 0.25%	1-2 inch weeds
2	Metribuzin +Rimsulfuron + NIS	0.025 + 0.0156 + 0.125%	1-2 inch weeds
3	Untreated Check		

No injury was observed at either rating date. Weeds were controlled in all plots including the untreated checks due to aggressive hilling and the early harrowing.