

Use of Metribuzin for weed control in irrigated potato. Harlene Hatterman-Valenti and Collin Auwarter.

Field research was conducted at the Northern Plains Potato Growers Association Irrigation Research site near Inkster, ND to compare the efficacy and selectivity of metribuzin when applied pre and post to Russet Burbank potatoes. Seed pieces (2oz) were planted on 36 inch rows and 12 inch spacing on May 23, 2009. Plots were 4 rows by 25 ft arranged in a randomized complete block design with 4 replicates. Extension recommendations were used for cultural practices throughout the year. The herbicide treatments were applied to the middle 2 of 4 rows using a CO₂ pressurized backpack sprayer equipped with 8002 flat fan nozzles with an output of 20 gpa and a pressure of 40 psi on June 16 ('A') and on June 25 ('B'). Weed control evaluations were done on June 22 (6 DAA 'A'), July 1 (15 DAA 'A', 6 DAA 'B'), July 16 (30 DAA 'A', 21 DAA 'B'), and August 13 (58 DAA 'A', 49 DAA 'B'). We harvested both treated rows on September 26.

Application Date:	6/16/09	6/25/09
Air Temperature (F):	67	76
Rel. Humidity (%):	76	36
Wind (mph):	8	5
Soil Moisture:	Below Normal	Adequate
Cloud Cover (%):	100	0

Effect of herbicide on weed control and yield.

No.	Name	Rate	Unit	Code	6/22/09			7/1/09			7/16/09			8/13/09			Yield CWT/A
					Rrpw	Colq	Grft	Rrpw	Colq	Grft	Rrpw	Colq	Grft	Rrpw	Colq	Grft	
					-----% Control-----			-----% Control-----			-----% Control-----			-----% Control-----			
1	Untreated				0	0	0	0	0	0	0	0	0	0	0	0	285
2	Metribuzin	10.7	oz/a	A	100	94	100	100	100	100	100	100	100	100	100	100	418
3	Metribuzin	21.3	oz/a	A	100	100	99	100	100	100	99	99	99	100	100	100	389
4	Sencor	10.7	oz/a	A	100	95	100	96	99	100	100	98	100	100	100	100	401
5	Metribuzin	5.33	oz/a	B	0	0	0	90	90	93	98	89	98	95	93	100	418
6	Metribuzin	10.7	oz/a	B	0	0	0	90	90	98	100	91	98	100	100	100	407
7	Sencor	5.33	oz/a	B	0	0	0	93	90	100	100	92	100	98	98	100	412

Rrpw = redroot pigweed, Colq = common lambsquarters, Grft = green foxtail

Ratings on June 22 showed excellent control on redroot pigweed and green foxtail. Common lambsquarters, which was the most populated weed in the field, was completely controlled (100%) with metribuzin @ 21.3 oz/a (treatment 3), while metribuzin @ 10.7 oz/a (treatment 2) and Sencor @ 10.7 oz/a (treatment 4) had 94 and 95% control, respectively. July 1 ratings showed 100% control for the 3 weeds with both metribuzin pre-emergence treatments (2 and 3), while the post-emergence treatments showed between 90 and 93% control for redroot pigweed and common lambsquarters. By trials end, all pre-emergence treatments (2-4) and metribuzin @ 10.7 oz/a post-emergence treatment (6) had 100% control of all 3 weeds, while the lower rate of metribuzin post-emergence (treatment 5) showed 95% control of redroot pigweed and 93% control of common lambsquarters. The post-emergence Sencor treatment (7) had 98% control of both redroot pigweed and common lambsquarters. The untreated control yielded 284 cwt/A, while all other treatments (2-7) yielded between 391 and 421 cwt/A.