Winter Lentil Herbicide Study

164-0304-H-WILE-T

Location: Russ Zenner
Branch: Genesee
Rainfall (Ave.): 20 inch
Crop: Winter lentils
Variety: Morton
Rotation: 2003 Spring wheat

Seeding Date: October 12, 2003
Soil Texture: Silt loam
Organic Matter: 3.91
pH: 5.9

	Pre-Emergence Application Conditions	Spring Application Conditions
Date Treated	October 21, 2003	April 6, 2004
Air Temperature	60º	60º
Soil Temperature	50º	63º
Wind	0-3	0-3
Gallons/ac	20	20
Pressure	24	24
Nozzle	8002	8002
Stage of Growth	Lentils sprouted seeded ¼ - 1 in deep	Prickly lettuce1 ½ -2 ½ in /Mayweed ½ -2 Lentils 1 – 2 in, 6 Branches

	Treatments	Rate	% Control (5/17/04) Prickly L.	Mayweed	% Crop Response
1.	Pursuit	3oz.	0	40	14
2.	Pursuit + Prowl	3oz. + 24oz.	13	35	19
3.	Pursuit + Prowl / Sencor	3oz. + 24oz. / 4oz.	68	83	35
4.	Pursuit + Sencor	3oz. + 4oz.	35	40	16
5.	Pursuit + Sencor	3oz. + 6oz.	41	65	13
6.	Pursuit + Sencor / Sencor	3oz. + 4oz. / 4oz.	56	55	33
7.	Pursuit / Sencor	3oz. / 4oz.	30	80	23
8.	CHECK	----------			
9.	Pursuit / Sencor	3oz. / 6oz.	66	70	36
10.	Pursuit + Axiom	3oz. + 10oz.	16	18	54
11.	Pursuit + Outlook	3oz. + 16oz.	21	13	39
12.	Pursuit + Dual Magnum	3oz. + 24oz.	23	38	31
13.	Pursuit + Spartan	3oz. + 4oz.	13	50	36
14.	Axiom	10oz.	29	20	43
15.	Axiom / Sencor	10oz. / 4oz.	79	48	66
16.	CHECK	----------			
17.	Axiom + Prowl	10oz. + 24oz.	38	15	43
18.	Prowl	24oz.	16	30	23
19.	Prowl + Sencor	24oz. + 4oz.	36	75	19
20.	Prowl / Sencor	24oz. / 4oz.	65	60	38
21.	Dual Magnum	24oz.	15	5	21
22.	Spartan	4oz.	9	50	28
23.	Sandea	0.67oz.	13	20	26
24.	Karmex	24oz.	33	85	28

24 oz. Poast applied April 12, 2004

Comments

This trial was established near Genesee, Idaho. The purpose of the study was to gain experience with weed control programs in winter lentils. Both registered and non-registered materials were evaluated. The site was seeded directly into spring wheat stubble with a set of John Deere 455 drills on October 12, 2003.The crop was dusted in. Four tenths of an inch of moisture fell on October 15-16, which started germination. Our Pre-emergence treatments were applied on October 21. The next rain event occurred on November 10, when we picked up a half inch of rain. The lentils did not emerge until spring. All of the herbicide treatments evaluated in this trial significantly injured the lentils. Throughout the spring the untreated checks were more robust and provided much more crop competition than any of the treatments.

Direct Comparisons

	Treatments	Rate	% Control (5/17/04)		% Crop
			Prickly L.	Mayweed	Response
1.	Pursuit	3oz.	0	40	14
2.	Pursuit + Prowl	3oz. + 24oz.	13	35	19

It appears from the above applications of Pursuit the prickly lettuce is resistant to the ALS mode of action.

PROWL TREATMENTS

	Treatments	Rate	% Control (5/17/04)		% Crop
			Prickly L.	Mayweed	Response
18.	Prowl	24oz.	16	30	23
19.	Prowl + Sencor	24oz. + 4oz.	36	75	19
2.	Pursuit + Prowl	3oz. + 24oz.	13	35	19

A Pre-emergence application of Prowl + Sencor did provide 75% control of the mayweed. However, it was very poor on the prickly lettuce. All of the treatments produced significant crop injury.

PREEMERGENCE SENCOR APPLICATIONS

	Treatments	Rate	% Control (5/17/04)		% Crop
			Prickly L.	Mayweed	Response
1.	Pursuit	3oz.	0	40	14
4.	Pursuit + Sencor	3oz. + 4oz.	35	40	16
5.	Pursuit + Sencor	3oz. + 6oz.	41	65	13
18.	Prowl	24oz.	16	30	23
19.	Prowl + Sencor	24oz. + 4oz.	36	75	19

Sencor applied Pre-emergence did provide some control of prickly lettuce. The six ounce Sencor rate also improved the mayweed control. However, based on past experiences with spring lentils, we feel 4 ounces of Sencor applied Pre-emergence to winter lentils is all we should use from a crop safety standpoint. The 6 ounce rate did not increase crop injury at this location, however the site has an organic matter content of 3.9%.

POSTEMERGENCE SENCOR APPLICATIONS

	Treatments	Rate	% Control (5/17/04) Prickly L.	Mayweed	% Crop Response
1.	Pursuit	3oz.	0	40	14
7.	Pursuit / Sencor	3oz. / 4oz.	30	80	23
9.	Pursuit / Sencor	3oz. / 6oz.	66	70	36
2.	Pursuit + Prowl	3oz. + 24oz.	13	35	19
3.	Pursuit + Prowl / Sencor	3oz. + 24oz. / 4oz.	68	83	35
6.	Pursuit + Sencor / Sencor	3oz. + 4oz. / 4oz.	56	55	33
18.	Prowl	24oz.	16	30	23
20.	Prowl / Sencor	24oz. / 4oz.	65	60	38

Some of the weed control ratings in the above treatments containing spring applied, post-emergence applications of Sencor look pretty good. However, in all cases where Sencor was applied in the spring the crop injury also increased well beyond what would be considered acceptable.

AXIOM APPLICATIONS

	Treatments	Rate	% Control (5/17/04) Prickly L.	Mayweed	% Crop Response
14.	Axiom	10oz.	29	20	43
17.	Axiom + Prowl	10oz. + 24oz.	38	15	43
15.	Axiom / Sencor	10oz. / 4oz.	79	48	66

Axiom is not labeled on lentils. As seen in the above treatments, it is very injurious to the crop.

MISC. APPLICATIONS

	Treatments	Rate	% Control (5/17/04) Prickly L.	Mayweed	% Crop Response
21.	Dual Magnum	24oz.	15	5	21
12.	Pursuit + Dual Magnum	3oz. + 24oz.	23	38	31
22.	Spartan	4oz.	9	50	28
13.	Pursuit + Spartan	3oz. + 4oz.	13	50	36
11.	Pursuit + Outlook	3oz. + 16oz.	21	13	39
23.	Sandea	0.67oz.	13	20	26
24.	Karmex	24oz.	33	85	28

We screened several herbicides which are not registered on lentils. Of the above materials, the only one that is labeled on lentils is Outlook. None of the materials or combinations gave adequate weed control and all produced unacceptable crop injury.