Study Name: Prickly lettuce control in dry pea

Study Number: 0517

Objectives:

Results:

Dry peas were seeded May 4 near Beach, ND. Herbicide treatments were applied just before planting (Preplant) on May 4 or postemergence (POST) on June 16. Individual plots were 10 x 30 ft and replicated three times. Glyphosate was applied preplant to all plots with the exception of the untreated plot. Prickly lettuce, which is a winter annual, was in the rosette stage at the preplant application (about 2-4" diameter, 10-15 per sq ft). The June 16 evaluation was essentially an evaluation of glyphosate activity on emerged prickly lettuce. It was not clear how many prickly lettuce plants present at the July/Aug evaluations survived the preplant glyphosate application or emerged thereafter. We do know that at least some plants did survive the glyphosate application.

Sencor at 0.25 lb/A provided slightly better prickly lettuce control than at 0.125 lb. However, Sencor, Pursuit + Spartan, and Express applied preplant with glyphosate did not provide additional prickly lettuce control over that provided by glyphosate alone at any evaluation date. MCPA amine, Basagran alone, and Basagran + Raptor combinations provided 89-94% prickly lettuce control, with the exception of where Basagran + Raptor was applied at reduced rates. Basagran + Raptor (0.5 pt + 2 fl oz) provided only 75% prickly lettuce control or about 15-20% less control compared to the normal use rates. It is clear from this and other studies that growers should not use reduced rates when attempting to control prickly lettuce.

MCPA amine and 2,4-DB are not labeled for use in North Dakota on dry pea. Although MCPA amine provided 93% control, it also caused about 30% crop injury. Treatments containing Basagran caused 8-14% crop injury. 2,4-DB showed some activity on prickly lettuce, but provided only 78% control and caused about 9% injury. It is clear from this study that the glyphosate burndown is critical for reducing prickly lettuce competition to allow the crop to get a head start. Cold spring temperatures less than 50-55 F may reduce glyphosate effectiveness. Without an effective glyphosate burndown, the postemergence herbicides alone would not be as effective since prickly lettuce would be larger and more dense at the postemergence application. Basagran and Raptor are more effective on smaller prickly lettuce.

Table. Prickly lettuce control in no-till lentil.

			Prickly lettuce			Pea	Density
Treatment[a]	Rate	Timing	Jun 16	Jul 1	Aug 4	Jul 1	Jun 16
	(product/A)		——— % control ———			% injury	#/m row
Glyphosate	0.75 lb ae	Preplant	97	70	65	0	13.7
Sencor	0.125 lb	Preplant	91	67	61	0	12.2
Sencor	0.25 lb	Preplant	94	71	69	0	13.0
Pursuit + Spartan	2 fl oz + 2 oz	Preplant	93	67	63	0	13.2
Basagran + MSO	2 pt + 1%	POST	97	92	94	12	12.8
Basagran + Raptor[b]	1 pt + 4 fl oz	POST	93	89	89	8	12.8
Basagran + Raptor[b]	2 pt + 2 fl oz	POST	92	85	89	14	13.4
Sencor /	0.2 lb /	Preplant /	95	87	91	11	12.9
Sencor /	0.2 lb /	Preplant /	91	79	75	5	13.5
2,4-DB	0.7 pt	POST	95	80	78	9	13.2
MCPA amine	0.5 pt	POST	97	93	93	30	11.8
Express + NIS	0.1 oz + 0.125%	Preplant	95	71	66	0	12.2
Express + NIS	0.167 oz + 0.125%	Preplant	93	68	63	0	12.1
Untreated			0	0	0	0	10.1
LSD (0.05)			4	5	6	3	1.8

CV	3	4	5	29	8.8

[a]*Glyphosate plus AMS at 0.75 lb ae plus 2.5 gal/100 gal were applied preplant to all plots except the untreated.*
[b]*Basagran + Raptor was applied with MSO + 28% N (1% +1qt)*