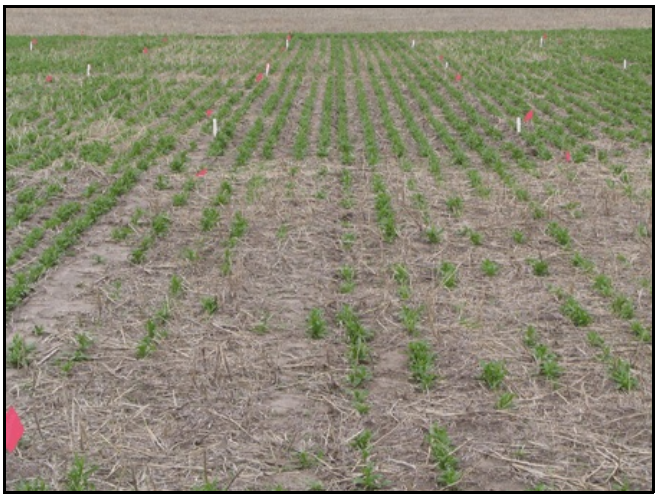
Evaluation of Potential Herbicide Treatments for Use in Camelina

A field study was initiated at the High Plains Agricultural Laboratory near Sidney, NE to evaluate crop injury and efficacy of several herbicides for potential use in camelina. The experimental design was a randomized complete block with four replications. Plots were 10 feet wide by 25 feet long. Herbicide treatments were applied with an ATV-mounted sprayer set to deliver 17 gallons/acre at three miles/hour and 30 psi. On April 4, 2008 pre-plant incorporated (PPI) treatments were applied and immediately incorporated after application with a single pass of a mulch-treader. Camelina was no-till seeded into proso millet residue at a rate of 6 pounds of seed/A. Preemergence (PRE) treatments were applied immediately after planting. The study was located on an Duroc loam soil with 3.3% organic matter content and a pH of 6.3.



Crop injury was observed in the two Command treatments, with injury being greater at the 4.8 oz/A rate compared to the 3 oz/A rate. Since the onset of drought conditions in 2000, we have struggled to get small-seeded crops such as camelina, canola, and brown mustard established in non-irrigated studies. This year was no exception. Seedlings did not emerge until early May and stands were erratic. The best stands were obtained in plots where herbicide treatments were mechanically incorporated prior to planting. We have seen this before with brown mustard studies. The only treatment having a stand count significantly better than the nontreated check was the Treflan PPI treatment.

Weed control, visually evaluated on July 1, was best with the PPI dinitroaniline treatments. Of the three PPI treatments, Treflan appeared to provide the greatest level of weed control, although it was not statistically significant from the other PPI treatments. Weed control was influenced by crop stand. Where crop stands were the best, weed control was also the best. Camelina appeared to be very competitive with the weeds in this study. However, it is difficult to ascertain how much of the weed control was due to the herbicide treatment and how much was due to plant competition because the best weed control was obtained where the plant stands were the best, that is, where tillage was used to incorporate the herbicide.

If camelina, or any of the other small-seeded oilseed crops, is to be a viable option for dryland crop producers in the Nebraska Panhandle, we will need to figure out how to consistently get an adequately dense and uniform plant stand established.

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Treatment	Rate	Timing	Crop Injury	Stand Counts	Visual weed		
					Kochia	Russian thistle	Volunteer proso
			%	plts/m row	%		
Untreated Check			0	14	0	0	0
Treflan EC	1.5 pt/A	PPI	0	25	90	93	83
Sonalan	2 pt/A	PPI	0	20	78	76	68
Prowl H_20	1.5 pt/A	PPI	0	16	78	75	83
Dual Magnum	1.3 pt/A	PRE	0	12	50	50	35
Outlook	17 oz/A	PRE	0	10	23	13	0
Command (3ME)	3 oz/A	PRE	1	14	33	18	30
Command (3ME)	4.8 oz/A	PRE	10	14	50	49	40
LSD (5%)			1	10	41	37	46