

Crop Response to Pre-Pare™ Herbicide

A field study was initiated at the High Plains Agricultural Laboratory near Sidney, NE to evaluate crop response to Pre-Pare herbicide applied to winter wheat in the Fall for downy brome control. Crops evaluated were grain sorghum, proso millet, and sunflower. Herbicide treatments were applied with an ATV-mounted sprayer set to deliver 12 gallons/acre at 3 miles/hour and 15 psi. The experimental plot design was a randomized complete block with four replications. Plots were 10 feet wide by 25 feet long. The study was located on an Duroc loam soil with an organic matter content of 3.0% and a pH of 6.1.



Plant height measurements were made on July 13.

Treatments were applied PRE on September 14, 2009 immediately after ‘Pronghorn’ winter wheat was seeded at a rate of 55 pounds/acre. The study was initially designed to look at downy brome control in winter wheat, but dry conditions after winter wheat seeding resulted in no downy brome emergence. Consequently, none of the planned POST treatments were applied. The plot was sprayed out with glyphosate at 32 ounces/acre on June 1, 2010. On June 4, proso millet ‘Sunrise’ was no-till seeded across the previous Fall’s herbicide treatments at a seeding rate of 15 pounds/acre. Likewise, grain sorghum ‘DK29-28S’ was seeded at 40,000 plants per acre and oil sunflower was seeded at 15,000 plants per acre. Crops were observed for injury for about six weeks. Yield data were not collected.

No crop injury was observed in the winter wheat prior to spraying it out on June 1. No crop injury or height reductions were observed in proso millet or sunflower. Sorghum injury was only noticed in a few plots in one replication. Grain sorghum is known to be sensitive to Pre-Pare. Proso millet and sunflower appear to have adequate tolerance to soil residual levels of Pre-Pare herbicide.

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Treatment	Rate	July 13	
		Visual crop injury	Plant height
	oz prod/A	%	inches
Nontreated check		0	23
ARY-0454-110	0.52	3	20
Pre-Pare	0.306	0	22
Pre-Pare	0.204	0	23
Pre-Pare	0.306	15	16
Nontreated check		0	22
Pre-Pare	0.306	3	21
Pre-Pare	0.306	3	24
Pre-Pare	0.306	0	23
Pre-Pare	0.306	0	20
Pre-Pare	0.306	8	20
Nontreated check		0	22
LSD (5%)		11	4