PrePare Herbicide in Spring Wheat

Eric Eriksmoen, Hettinger, ND

'Reeder' HRSW was seeded on May 14. Pre-emergence treatments (PRE) were applied on May 19 to 2" tall mixed bromus species (downy brome and Japanese brome) with 68^{o} F, 64% RH, partly cloudy sky and southeast wind at 8 mph. Post-emergence treatments (POST) were applied on June 3 to 3 leaf wheat and to downy brome (dobr) in the boot stage, tillering Japanese brome (jabr) and to 1 1/2 leaf Persian darnel (peda) with 48^{o} F, 82% RH, cloudy sky and southwest wind at 4 mph. Treatments were applied with a tractor mounted CO_2 propelled plot sprayer delivering 10 gpa at 30 psi through PK-01E80 nozzles to a 5 foot wide area the length of 10 by 28 foot plots. The trial was a randomized complete block design with four replications. The soil is classified as a silt-loam with a pH of 6.2 and OM of 3.2%. Downy brome, Japanese brome and Persian darnel populations averaged 5, 35 and 10 plants per square foot, respectively. Plots were evaluated for crop injury on June 3, June 12 and June 26 (data not shown), for plant height on July 17 and for weed control on June 3, June 12, June 26(data not shown) and on September 1. The trial was harvested on September 7.

Summary

Crop injury was not observed on any treatment. All herbicide treatments provided excellent season long downy brome and Japanese brome control with the exception of glyphosate alone (trt 2) which provided excellent season long downy brome control but only fair Japanese brome control. Some Persian darnel and Japanese brome emerged after PRE applications. None of the PRE treatments were effective in providing season long control of Persian darnel. The PrePare / Goldsky treatments (trts 10 & 11) provided excellent season long control of Persian darnel. Wild oats emerged in a very late June flush resulting in relatively poor and inconsistent herbicide control. All herbicide treatments had significantly higher yields than the untreated check.

	Treatment	Product rate	App. timing	-- June 3 -- inj	cheat*	------ June 12 ------ inj	cheat	peda	Plant height	------- September 1 ------- dobr	jabr	peda	wiot	Grain yield
		oz/A		---------- % control ----------					cm	--------- % control ---------				bu/A
1	Untreated			0	0	0	0	0	37	0	0	0	0	5.8
2	Glyph + AMS	11.4 + 1lb	PRE	0	98	0	95	0	54	94	82	0	0	29.9
3	Glyphosate + AMS + PrePare	11.4 + 1lb + 0.3	PRE	0	99	0	96	23	56	96	92	0	17	33.5
4	Glyph + AMS + Olympus	11.4 + 1lb + 0.3	PRE	0	99	0	97	5	55	96	96	0	86	30.8
5	Glyph + AMS + Rimfire	11.4 + 1lb + 1.75	PRE	0	99	0	99	33	55	98	97	10	27	33.1
6	Glyph + AMS + Olympus	11.4 + 1lb + 0.6	PRE	0	99	0	97	70	56	99	98	0	70	30.7
7	Glyph + AMS + PrePare / ARY…105 + Basic Blend	11.4 + 1lb + 0.3 / 0.346 + 1%	PRE / POST	0	99	0	98	90	50	94	97	50	47	33.4
8	Glyph + AMS + PrePare / ARY…105 + Basic Blend	11.4 + 1lb + 0.3 / 0.52 + 1%	PRE / POST	0	98	0	98	80	51	93	97	50	57	26.7
9	Glyph + AMS + PrePare / Everest + Basic Blend	11.4 + 1lb + 0.3 / 0.3 + 1%	PRE / POST	0	99	0	96	70	52	92	99	0	10	33.9
10	Glyph + AMS + PrePare / GoldSky + Basic Blend	11.4 + 1lb + 0.3 / 8 + 1%	PRE / POST	0	99	0	99	40	56	98	96	97	37	34.7
11	Glyph + AMS + PrePare / GoldSky + Basic Blend	11.4 + 1lb + 0.3 / 16 + 1%	PRE / POST	0	98	0	98	65	54	97	96	99	50	36.7
12	Glyph + AMS + PrePare / Rimfire + Basic Blend	11.4 + 1lb + 0.3 / 1.75 + 1%	PRE / POST	0	99	0	99	0	52	98	99	0	50	32.2
13	Glyph + AMS / Everest + Basic Blend	11.4 + 1lb / 0.6 + 1%	PRE / POST	0	99	0	98	35	58	95	97	0	83	34.9
14	Glyph + AMS / ARY…105 + Basic Blend	11.4 + 1lb / 1.04 + 1%	PRE / POST	0	99	0	96	33	56	94	99	0	80	38.4
15	Glyph + AMS / GoldSky + Basic Blend	11.4 + 1lb / 16 + 1%	PRE / POST	0	99	0	97	20	54	97	99	23	94	36.7
	C.V. %			0	1.0	0	2.4	48	11	4.0	4.4	77	59	6.3
	LSD 5%			NS	1	NS	3	25	9	5	6	25	39	2.8

* Cheat = downy brome & Japanese brome mixture. NS = no statistical difference between treatments.