Italian Ryegrass Control in Winter Wheat with Anthem® Herbicide

A field study was initiated at the Cook Agronomy Farm near Pullman, WA to evaluate the efficacy of two different formulations of Anthem herbicide (pyroxasulfone + fluthiacet) on Italian ryegrass and crop injury when applied at various times to winter wheat. Soil at the site was a silt loam with 3.1% organic matter and a pH of 5.4. The experimental design was a randomized complete block with four replications. The previous crop was chickpea. Preplant incorporated (PPI) treatments were applied on October 9, 2012 with a CO_2 backpack sprayer set to deliver 10 gpa at 35 psi and 3 mph. The treatments were immediately incorporated with a harrow run in two directions. 'Brundage 96' was planted at the rate of 96 pounds per acre on October 18, 2012 using a Horsch drill with 12-inch row spacing. The following day, October 19, preemergence (PRE) herbicides were applied with the CO_2 backpack sprayer. Postemergence (POST) herbicide applications were applied with the CO_2 backpack sprayer on November 16, 2012. Little Italian ryegrass emergence was observed in the fall or winter. Some Italian ryegrass did emerge in the spring, but densities were low

The low Italian ryegrass densities in this study made it difficult to determine treatment differences for weed control. With the exception of the highest rate of F9310-6 applied PPI, all treatments provided good to excellent ryegrass control. There did appear to be some potential for crop injury from Anthem herbicide, with spring stand counts being reduced in some Anthem treatments compared to the nontreated check and some treatments having somewhat delayed maturity at heading compared to the nontreated check. Although not significantly different, crop injury with PPI treatments tended to be greater than with other treatment application times. However, grain yields were not significantly reduced by any treatment when compared to the nontreated check. No consistent differences between the two formulations were observed. Further work with Anthem herbicide for Italian ryegrass control is needed and encouraged.

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			2-Apr-13	11-Jun-13	14-Jun-13	19-Aug-13
Treatment	Rate	Timing	Wheat count	Italian ryegrass control	Heading	Grain yield
	oz/a		pl/20 ft	---------- % ----------		bu/a
F910-6	5.0	PPI	42	88	74	117
F910-6	6.5	PPI	39	65	76	117
F9310-6	5.0	PRE	47	95	82	120
F9310-7	2.6	PRE	47	95	69	112
F9310-6	6.5	PRE	42	95	81	115
F9310-7	3.4	PRE	41	95	84	115
F9310-6	8.0	PRE	42	95	69	122
F9310-7	4.2	PRE	44	100	83	120
F9310-6	5.0	PRE	53	93	93	133
PowerFlex	2.5	POST				
NIS	0.25% v/v	POST				
AMS	17 lb/100 gal	POST				
PowerFlex	3.5	POST	48	85	73	117
NIS	0.25% v/v	POST				
AMS	17 lb/100 gal	POST				
Axiom	10	POST	49	93	89	116
Nontreated check			55	0	100	122
LSD (5%)*			14	22	20	14.8

*Treatment differences less than the LSD value are not considered significant because we do not feel confident that the difference is due to the treatment rather than to experimental error or random variation associated with the experiment.