

Project Title: Wild Oat Herbicide Screening Trial

Project Leader: Bob Stougaard

Objective: To evaluate the effects of herbicides and application rates on wild oat control and spring wheat yield.

Results:

Eight herbicides were applied at their respective 1X and 1/3X rates to evaluate the consistency of wild oat control in spring wheat. The experimental design was a randomized complete block with three replications. 'Freyr' hard red spring wheat was planted on seven inch row spacings, to a depth of two inches on April 23, at a rate of 70 lb/A. Wild oat was seeded in the center of each plot at a density of 16 seeds per square foot on April 30. The herbicides were applied on May 29, using a CO₂ backpack sprayer with Teejet XR11002 nozzles in 20 GPA of water. Spring wheat and wild oat plants were at the 5- and 4-leaf stage, respectively, at the time of application. Broadleaf weeds were controlled with 0.6 oz/A of Harmony Extra applied post emergence on June 4. Crop injury and wild oat control were evaluated one and six weeks after application, respectively. Spring wheat yield and test weight were determined on August 20.

Crop injury was most noticeable with Silverado, Puma, and Everest applied at the 1X rate. However, injury was marginal with all herbicides when applied at the 1/3X rate (Table 1). All herbicides evaluated provided 89% wild oat control or greater when applied at their respective 1X rates. Averaged over rates, control declined by about 50% when herbicides were applied at the 1/3X rate. However, Axial, Everest, and Silverado maintained 89% control or more even when applied at the lower rate. Wild oat competition was minimal this year, and the level of control had little effect on spring wheat yield. Nevertheless, the highest yields were associated with Axial.

Summary:

Overall, herbicide performance during 2009 was excellent with all herbicides when applied at labeled rates. However, Axial produced the highest yields.

Table 1. Effects of wild oat herbicides and use rates on crop injury, wild oat control, and yield.

Treatment (TRT)	Rate (1X) (lb ai/ac)	Crop Injury (%)			Percent control			Yield (bu/A)		
		1X	1/3X	TRT mean	1X	1/3X	TRT mean	1X	1/3X	TRT mean
Achieve	0.1800	0	0	0	95	47	71	56	55	55
Axial	0.0530	5	0	2	100	89	94	62	62	62
Discover	0.0500	5	0	2	89	20	54	58	54	56
Everest	0.0262	18	8	13	100	99	99	57	60	58
Goldsky	0.1050	3	3	3	99	33	66	58	52	55
Hoelon	0.7500	13	3	8	90	33	61	55	52	53
Puma	0.0830	18	5	11	90	10	50	59	50	54
Silverado	0.0028	25	10	17	97	94	95	61	57	59
Rate mean		11	4	7	95	53	74	58	55	56
Untreated		0	0	0	0	0	0	51	52	51
LSD (0.05)			10.3			18			5	
C.V.			94			17			5	