

Evaluation of Axial® Bold for wild oat control in spring wheat

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A field study was conducted at Meyer Farms near Pullman, WA to evaluate crop safety and wild oat control with Axial Bold. Axial Bold is a premixture of pinoxaden and fenoxaprop. Both active ingredients are ACCase inhibitors (Group 1). The study area followed winter wheat. 'Whit' spring wheat was seeded on April 26, 2019 at the rate of 117 lb/A with a John Deere 455 double disc drill on a 7-inch row spacing at 1-inch depth. Nitrogen and sulfur were applied at 80 and 20 lb/A, respectively prior to planting. At planting, nitrogen and phosphorus were applied at 10 and 20 lb/A, respectively. Soil at this site is a Palouse silt loam with 4.2% organic matter and a pH of 5.0. On May 28th, treatments were applied with a CO₂-powered backpack sprayer set to deliver 10 gpa at 49 psi at 2.3 mph. Wheat was at the two tiller stage and was 12 inches tall. Wild oat plants were 3 inches tall and there was an average of 12 plants per square meter. However, these wild oat counts only represented a fraction of what was in the study area. There were many plants within the row that were difficult to distinguish from the spring wheat at the time of application. The air temperature was 80°F, relative humidity was 36% and the wind was out of the west at 4 mph.



The trial site was uniformly infested with wild oats with a very high population. In general, group 1 herbicides including Axial Bold, Axial XL, Tacoma 1EC and Discover NG, provided better control than group 2 herbicides including Everest 3.0, Olympus and OpenSky. None of the treatments provided commercially acceptable (> 80%) control. Axial Bold was the only treatment to come close to this level of control. Olympus- and OpenSky- treated plots yielded similarly to the nontreated check plots. Yield was increased by all other treatments when compared to the nontreated check. No crop injury was observed with any of the treatments in this study.

Some wild oat populations in Washington, including the population in this study, are now resistant to Axial. Axial has helped to keep wild oat under control for many years, but as this study demonstrates, our ability to control wild oat with Axial is diminishing. The addition of fenoxaprop to pinoxaden (Axial Bold) provides some additional control of wild oat, but it may be insufficient for the control of populations already resistant to Axial.

Treatment	Rate	Wild oat control			8/19
		6/17	7/2	7/15	Yield
	fl oz/A	----- 0 to 100% -----			bu/a
Nontreated Check	--	--	--	--	27 c
Axial Bold	15	58 a ¹	75 a	71 a	46 a
Axial XL	16.4	10 bc	38 bc	35 bc	43 a
Tacoma 1EC	10.6	40 a	58 ab	54 ab	42 a
Discover NG+ MVO	12.8 + 0.25% v/v	33 ab	46 b	49 ab	41 a
Everest 3.0 + NIS + UAN	2.0 + 0.5% v/v + 2.0 qts/a	5 c	35 bc	23 c	38 ab
Olympus + NIS	0.9 oz + 0.5% v/v	5 c	20 c	15 c	25 c
OpenSky + NIS + UAN	16 + 0.5% v/v + 2.0 qts/a	5 c	28 c	13 c	29 bc

¹ Means, based on four replicates, within a column, followed by the same letter are not significantly different at P = 0.05 as determined by Fisher's protected LSD test, which means that we are not confident that the difference is the result of treatment rather than experimental error or random variation associated with the experiment.