

## **Evaluation of Everest<sup>®</sup> 2.0 and tank mix partners for the control of rattail fescue in direct-seeded winter wheat**

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A field study was conducted at Wolf Farms near Uniontown, WA to generate rattail fescue control data with Everest 2.0, PowerFlex<sup>®</sup> HL, Osprey<sup>®</sup>, Varro<sup>®</sup> and Audit<sup>®</sup> 1:1 in winter wheat. All of these products fall in the acetolactate synthase (ALS) inhibitor class (Group 2). Rattail fescue is a significant problem in direct-seed systems.

The soil at this site is an Athena silt loam with 4.8% organic matter and a pH of 4.4. WB1529 was seeded at a rate of 98 lb seed/A on September 25, 2015 with a direct-seed Cross Slot<sup>®</sup> drill with row openers on 12-inch centers. Fall fertility consisted of 60:30:20 lb/A of nitrogen:phosphorus:sulfur. Spring fertility consisted of 30 lb nitrogen and 1 lb phosphorus per acre. An early spring post-emergence application took place on April 1<sup>th</sup> with a CO<sub>2</sub>-powered backpack sprayer set to deliver 10 gpa at 43 psi at 2.3 mph. Conditions were an air temperature of 64°F, relative humidity of 32% and the wind out of the SE at 3 mph. Wheat growth stage was quite variable within the trial area ranged from 3 to 9 tillers and height ranged from 3 to 9 inches. The high variability in wheat size and development was due to incomplete fall emergence resulting from dry soil conditions in the fall of 2015. Rattail fescue distribution was not uniform across the trial area. Rattail fescue ranged from four to five tillers.

No crop injury was observed among all treatments evaluated. At approximately one month after application, it appeared that all treatments were having a positive effect on rattail fescue control. However, by the final rating on June 27<sup>th</sup>, products including Osprey and PowerFlex HL when applied alone did not provide acceptable control of rattail fescue. The addition of Audit 1:1 (0.6 oz/A) to Everest 2.0 (0.98 fl oz/A) reduced rattail fescue control when compared to Everest 2.0 (0.98 fl oz/A) applied alone. Audit 1:1 (0.6 oz/A) reduced control when added to Everest 2.0 (0.75 fl oz/A) plus Osprey (4.75 oz/A), when compared to Everest plus Osprey applied together. Everest 2.0 (0.75 fl oz/A) plus Osprey (4.75 oz/A) or Osprey (4.75 oz/A) plus Varro (2.95 fl oz/A) are treatments to consider for the post-emergence control of rattail fescue in direct-seed winter wheat. Yield data was not collected within the trial area.

Treatment	Rate	Rattail fescue control		
		5/5	5/24	6/27
	fl oz/A	-----%-----		
Nontreated Check	--	--	--	--
Osprey + Varro <sup>1</sup>	4.75 oz + 2.95	88 ab <sup>2</sup>	88 a	92 a
Everest 2.0 + Osprey + Varro	0.5 + 4.75 oz + 2.95	90 a	92 a	88 ab
Everest 2.0 + Osprey	0.75 + 4.75 oz	90 a	85 a	88 ab
Everest 2.0 + Osprey	0.5 + 4.75 oz	85 a-c	85 a	80 ab
Everest 2.0 + Osprey	0.98 + 4.75 oz	78 b-d	77 ab	73 a-c
Everest 2.0 + Audit 1:1 + Osprey	0.75 + 0.6 oz + 4.75 oz	83 a-c	75 ab	73 a-c
Everest 2.0	0.98	87 ab	77 ab	68 a-c
Everest 2.0 + Audit 1:1 + PowerFlex HL	0.98 + 0.6 oz + 1 oz	78 b-d	65 b	62 b-d
Everest 2.0 + Audit 1:1	0.98 + 0.6 oz	82 a-c	67 b	47 c-e
PowerFlex HL	2 oz	75 cd	62 bc	37 de
Osprey	4.75 oz	70 d	45 c	32 e

<sup>1</sup> All treatments were tank mixed with 0.25% v/v NIS and 1.0 lb AMS/A

<sup>2</sup> Means, based on three 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.