

Evaluation of Osprey[®] Xtra for the control of downy brome and Italian ryegrass in winter wheat

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The trial had three objectives: 1) Determine the postemergence activity of Osprey Xtra for the control of downy brome and Italian ryegrass, 2) Determine if adding one or two broadleaf herbicides that are formulated as emulsifiable concentrates (EC) will improve the performance of Osprey Xtra, and 3) Ascertain if a fall post-plant preemergence application of Zidua[®] followed by a spring postemergence application of Osprey Xtra provides better annual grass control than either product applied alone.



This study was conducted on land owned and farmed by the late Mark James near Dixie, WA. The soil at this site is an Athena silt loam with 2.9% organic matter and a pH of 5.2. Winter wheat was the previous crop. Crop residue remaining after harvest was burned just prior to planting. The field was sprayed with glyphosate on October 6, 2019. The field was planted on October 10th with a Horsch high disturbance direct-seed drill with paired rows on a 15-inch row spacing. The cultivar ‘UI Magic CL+’ was seeded at a depth of 1.5 inches and a rate of 110 lb seed/acre. Zidua preemergence treatments were applied on October 11th with a CO₂-powered backpack sprayer set to deliver 10 gpa at 52 psi at 2.3 mph. The air temperature was 59°F, relative humidity was 29% and the wind was out of the west at 4 mph. Postemergence treatments, including Osprey Xtra and broadleaf herbicides, were applied on February 28, 2020 when the air temperature was 65°F, relative humidity was 32% and the wind was out of the southwest at 4 mph. Annual grass identification was difficult in the fall and when the postemergence applications were made in the late winter. On November 18, 2019 and February 28, 2020, there was an average of 12 and 18 annual grass plants per square foot, respectively in the four, nontreated check plots. In general, annual grass weeds were 3-leaf to 5-tiller and 2 to 3.25 inches in height at the postemergence application timing. Wheat was 2- to 4-tillers at the postemergence application timing.

Osprey Xtra provided little control of downy brome or Italian ryegrass in this study (Table). There is widespread resistance to the ALS-inhibiting herbicides (group 2) in downy brome biotypes found in Walla Walla County, which likely explains this result. The addition of Huskie[®] or Huskie + Brox[®]-M to Osprey Xtra did not significantly improve annual grass control when compared to Osprey Xtra applied alone. Downy brome and Italian ryegrass control was better in treatments containing Zidua, but following Zidua with Osprey Xtra and/or Huskie did not improve control compared to Zidua by itself. None of the treatments evaluated provided commercially acceptable control of downy brome or Italian ryegrass.

		-----6/5-----	
		Downy	Italian
		brome	ryegrass
Treatment ¹	Rate	control	control
	fl oz/A	-----%-----	
Nontreated check	--	--	--
Osprey [®] Xtra ²	4.75 oz	10 d ⁴	13 b
Osprey Xtra + Huskie ^{®3}	4.75 oz + 13.5	13 cd	20 b
Osprey Xtra + Huskie + Brox [®] -M ³	4.75 oz + 13.5 + 16.0	23 b-d	23 b
Zidua [®]	1.5 oz	38 a-c	50 a
Zidua fb Osprey Xtra ²	1.5 oz fb 4.75 oz	45 ab	64 a
Zidua fb Osprey Xtra + Huskie ³	1.5 oz fb 4.75 oz + 13.5	54 a	58 a

¹Zidua was applied on October 11, 2019 and Osprey Xtra + broadleaf herbicides were applied on February 28, 2020.

²Treatment included 0.5% v/v NIS + 2.0 qt/a UAN

³Treatment included 0.25% v/v NIS + 2.0 qt/a UAN

⁴Means, 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.