Downy brome control with Valor® SX, Fierce® and Axiom® in winter wheat

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A field study was conducted at the Wilke Research Farm near Davenport, WA to evaluate downy brome control in winter wheat. All of these treatments contain a Group 15 herbicide. Group 15 herbicides are inhibitors of very-long-chain fatty acid synthesis. The active ingredients in Axiom are flufenacet (Group 15) and metribuzin (Group 5). The active ingredients in Fierce are pyroxasulfone (Group 15) and flumioxazin (Group 14). The active ingredient in Valor SX is flumioxazin (Group 14) and V-10206 is pyroxasulfone (Group 15).

The soil for this site is a Broadax silt loam with 2.7% organic matter and a pH of 5.1. On September 10, 2013, 'ARS-Crescent' winter wheat was planted into chemical fallowed ground using a Case IH, Flexicoil no-till drill with 12-inch row spacing. Seeding rate was 70 lb/acre and seed was planted to a 2-inch depth. Starter fertilizer was applied below the seed at planting at 100, 10 and 10 lb/acre of N:P:S. Herbicide treatments were applied post-plant, pre-emerge on September 13, 2013 using a CO_2 backpack sprayer set to deliver 15 gpa at 30 psi and 3 mph. Conditions were an air temperature of 90°F, relative humidity of 27% and the wind out of the west at 5 mph. The plots were harvested on August 5 using a Kincaid 8XP combine.

No significant crop injury was observed in this study (data not shown). Downy brome emergence in the fall was light and no treatment differences were observed. Downy brome emergence over the winter and early spring, however, was tremendous and plant densities were very high by the time of downy brome heading in late May. Both treatments containing pyroxasulfone, Fierce and Valor SX + V-1026, provided fair control of downy brome. The different Group 14 herbicides in these two treatments did not appear to influence the level of downy brome control. Both treatments had the same amount of pyroxasulfone (0.08 lb ai/acre). The Axiom treatments provided some suppression of downy brome.

Extreme downy brome pressure in the nontreated check treatment resulted in harvest errors that prevented the calculation of yield for this treatment. Grain yield was greatest in the Fierce treatment. Yields were similar amongst the other treatments. It is unclear why the yield of the Fierce treatment was greater than the yield of the Valor + V-1026 since no difference in crop injury or weed control was observed between these two treatments.

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		October 11	May 23		August 7
Treatment[a]	Rate	Downy brome control			Yield
	oz pr/a	----------%----------			bu/a
Axiom	8	31	44		19
Axiom	10	29	30		19
Fierce	3	50	74		27
Valor SX	1	49	69		21
V-10206	1.5				
Nontreated Check	--	--	--		--[b]
LSD (5%)		ns	23		4

[a] All treatments were applied POSPRE on September 13, 2013.
[b] Harvesting errors prevented a yield calculation in the nontreated check plots.

Some of the pesticides discussed in this presentation were tested under an experimental use permit granted by WSDA. Application of a pesticide to a crop or site that is not on the label is a violation of pesticide law and may subject the applicator to civil penalties up to $7,500. In addition, such an application may also result in illegal residues that could subject the crop to seizure or embargo action by WSDA and/or the U.S. Food and Drug Administration. It is your responsibility to check the label before using the product to ensure lawful use and obtain all necessary permits in advance.