PYROXSULAM EFFICACY TO WILD OAT INFLUENCED BY APPLICATION TIMING OR ADJUVANTS. Lindsey K. Hanson and Kirk A. Howatt, Graduate Student and Associate Professor, Department of Plant Sciences, North Dakota State University, Fargo, ND 58105-5051.

Pyroxsulam is a new herbicide for grass and broadleaf weed control in wheat. Field experiments were conducted at Fargo, ND, to determine the most effective timing of application of pyroxsulam for wild oat control and to identify the most effective adjuvant to maximize wild oat control with pyroxsulam. Plots were 3 by 9 m long in a randomized complete block design with 4 replicates. In the timing study, pyroxsulam at 11, 15, and 19 g/ha; flucarbazone at 25 g/ha; and clodinafop at 57 g/ha were applied at the 1-, 3- and 5-leaf stages. As the rate of pyroxsulam increased from 11 to 15 g/ha, better control was observed. However, no added benefit was observed by increasing the rate of pyroxsulam from 15 to 19 g/ha. Pyroxsulam applied at 3-leaf stage or earlier was most effective at controlling wild oats and preventing seed production. Pyroxsulam and flucarbazone applied at the 3-leaf stage gave similar control at 87%, while clodinafop applied at the same stage provided 95% control. In the adjuvant study, multiple adjuvant systems were applied with pyroxsulam at 11 g/ha on wild oats at the 3-leaf stage. Methylated seed oil (MSO), MSO + urea ammonium nitrate (UAN) and non-ionic surfactant (NIS) + ammonium sulfate (AMS) provided the best enhancement of pyroxsulam activity (97, 97 and 96% control, respectively), compared with 81% control without an adjuvant. With the exception of the MSO adjuvant, addition of UAN improved wild oat control with pyroxsulam by 5 to 10 percentage points within an adjuvant class.

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