

EFFECT OF APPLICATION TIMING ON WILD OAT CONTROL WITH EIGHT HERBICIDES. Craig M. Alford^{1*}, Roger M. Hybner² and Stephen D. Miller¹, Graduate Research Associate, Director and Professor, ¹Department of Plant Sciences and ²Sheridan Research and Extension Center, University of Wyoming, Laramie, WY 82071.

Wild oats are a serious weed problem for small grain producers throughout the world. Wild oats reduce yields through competition as well as contaminating harvested grain. In recent years there have been some new herbicides developed for control of wild oats in spring wheat. The development of imi-tolerant spring wheat has also provided an additional option for control of wild oat. There is limited information available that provides direct comparisons between the older standards and the recently developed products.

Studies were conducted at the University of Wyoming Research and Extension Center, Sheridan from 2000 to 2003 to investigate the effect of herbicide and application timing on wild oat control and wheat yields. Clodinafop, diclofop, difenzoquat, fenoxaprop, flucarbazone, imazamethabenz, imazamox, and tralkoxydim were applied to spring wheat at the 3 and 5-leaf growth stage, using recommended use rates and additives for each herbicide. All treatments were applied with a pressurized backpack sprayer delivering 187 L ha⁻¹ at 276 kpa. All treatments were replicated 3 times and set in a randomized complete block design. Crop injury, stand reduction and wild oat control was visually evaluated 19 to 62 days after the 5 leaf application, wheat height was also measured at this time. Wheat yields were collected in all years except 2002. Flucarbazone was the only herbicide to cause crop injury, but it was variable from year to year. The most severe injury was observed in 2001, which resulted in stunted wheat in the flucarbazone treatments particularly with the 5 leaf application. Other than this instance, height was not affected by herbicide or application timing. No stand reduction was observed with any treatment. Clodinafop and flucarbazone were the only treatments to consistently provide greater than 90% wild oat control regardless of application timing. All treatments except imazamox provided greater wild oat control at the 3-leaf compared to the 5-leaf timing. The 3-leaf application timing generally produced the largest wheat yields however there were no yield differences between herbicide treatments.