

UTILIZATION OF CLEARFIELD TECHNOLOGY FOR WEED CONTROL IN WINTER AND SPRING WHEAT. Steven R. King, Assistant Professor, Montana State University, Southern Agricultural Research Center, Huntley, MT 59037.

In Montana, wild oat (*Avena fatua*), feral rye (*Secale cereale*), and cheat (*Bromus secalinus*) are three of the most troublesome and difficult to control weeds in dryland small grains. Two separate experiments were performed in 2005 to evaluate the efficacy of imazamox applied postemergence (POST) for the control of these species in imidazolinone-tolerant wheat (*Triticum aestivum*). The first experiment evaluated imazamox applied with two different additives (ammonium sulfate (AMS) or nitrogen), with growth regulator herbicides (2,4-D, dicamba, or 2,4-D plus dicamba), or applied at two different growth stages (pre or post joint) of winter wheat (CL 1159) for the control of feral rye. The second experiment evaluated imazamox, BAS777 02H, fenoxaprop, and clodinafop treatments for the control of wild oat and cheat in spring wheat. Both experiments were designed as randomized complete blocks with three and four replications in the winter and spring wheat studies, respectively. Control of feral rye at 38 or 76 d after treatment (DAT) with the addition of AMS to treatments of imazamox did not differ from treatments of imazamox applied in combination with nitrogen. Control of feral rye was 87% or greater at 38 DAT due to treatments of imazamox applied with or without the addition of growth regulator herbicides, and no difference in feral rye control was observed among treatments. At 76 DAT, however, imazamox treatments containing 2,4-D or 2,4-D plus dicamba controlled feral rye greater than imazamox alone or in combination with dicamba. Feral rye was controlled 99 and 100% with post-joint applications of imazamox and imazamox plus dicamba, respectively, compared to only 65 and 75% control with pre-joint applications of imazamox and imazamox plus dicamba, respectively, in June. Post-joint applications of imazamox and imazamox plus dicamba were more effective than pre-joint applications because additional feral rye plants germinated subsequent to pre-joint applications. No differences in winter wheat yield occurred among imazamox treatments. In the spring wheat trial, wild oat control was 95% or greater with any treatment at 29 and 42 DAT. Imazamox and BAS777 02H controlled cheat 89% or greater at 29 and 42 DAT. Fenoxaprop and clodinafop treatments did not affect cheat. No differences in spring wheat yield were observed among treatments regardless of the level of cheat control. Results of these experiments indicated that the use of imazamox or BAS777 02H in imidazolinone-tolerant wheat are efficacious for the control of feral rye, wild oat, and cheat.