

**PYRASULFOTOLE & BROMOXYNIL FOR EFFICACY AND CROP RESPONSE IN WINTER WHEAT.** Patrick W. Geier, Phillip W. Stahlman, and Dallas E. Peterson, Assistant Scientist, Professor, and Professor, Kansas State University, Hays and Manhattan.

Three experiments during the 2007-08 and 2008-09 growing seasons determined the effects of pyrasulfotole & bromoxynil applied as a premixture and in combination with other herbicides on winter annual broadleaf weeds and winter wheat. The pyrasulfotole & bromoxynil premixtures and the premixtures in combination with dicamba, MCPA, or metsulfuron controlled flixweed, field pennycress, blue mustard, and bushy wallflower 95% or more regardless of application timing or experiment. During the 2007-08 season at Hays, fall-POST applications of all herbicides controlled henbit better than spring-POST treatments. Henbit control in this experiment was lowest (84 to 86%) with pyrasulfotole & bromoxynil plus metsulfuron or with the premix of dicamba & triasulfuron. At Manhattan, dicamba & triasulfuron controlled henbit 88 and 63% when applied fall-POST and spring-POST respectively, whereas all fall-POST treatments containing pyrasulfotole & bromoxynil controlled henbit 98% or more. Henbit control was essentially complete regardless of herbicide or application timing at Hays in 2008-09. Most wild buckwheat had not emerged prior to spring-POST applications at Manhattan. Spring application of dicamba & triasulfuron controlled wild buckwheat completely, whereas fall application provided 85% control. Fall and spring treatments of the pyrasulfotole & bromoxynil premixture and the premixture in combination with MCPA provided minimal wild buckwheat control. Spring treatments of pyrasulfotole & bromoxynil with dicamba or metsulfuron controlled wild buckwheat 85%, whereas the fall tank-mix with metsulfuron gave 67% control and the fall tank-mix with dicamba provided no buckwheat control. Minor wheat necrosis occurred at Manhattan and Hays in 2007-08; however injury was less than 10% and did not persist. Yields were not determined at Manhattan due to hail. At Hays in 2007-08, where weed pressure was heavy, herbicide-treated wheat yielded more than twice as much grain as nontreated wheat, but yields did not differ between herbicides. Weed pressure was light at Hays in 2008-09, and grain yields were similar among all herbicide-treated and nontreated wheat.