CONTROL OF JOINTED GOATGRASS USING BEST MANAGEMENT PRACTICES. Anthony D. White and Phillip W. Stahlman, Extension Coordinator, National Jointed Goatgrass Research Program and Research Weed Scientist, Kansas State University, Agricultural Research Center-Hays, 1232 240th Ave., Hays, KS 67601.

Jointed goatgrass (*Aegilops cylindrica*) was introduced into the United States during the early 1900s and has spread throughout most of the winter wheat producing areas in the West. Jointed goatgrass is a devastating weed that infests over 5 million acres of winter wheat and appears to spread every year. Jointed goatgrass costs producers $45 million annually due to reduced grain yields – commonly a 25% to 50% loss - and increased dockage at the grain terminal. An additional $100 million is estimated to be lost in reduced land value due to this troublesome weed.

In 1994, the National Jointed Goatgrass Research Program initiated an integrated, multidisciplinary effort involving 11 states and over 35 state and federal scientists to battle the problem of jointed goatgrass in winter wheat. Projects focused on management practices, certain aspects of jointed goatgrass biology and ecology, and various components of transferring the information directly to producers. The goal of the program is to ensure that producers have the best and most recent information possible to successfully manage jointed goatgrass in winter wheat.

Jointed goatgrass is difficult to control in winter wheat. It typically emerges simultaneously with the wheat crop in the fall and is similar in appearance to wheat, so the problem often is not identified. Jointed goatgrass produces spikelets (sometimes called joints) that are about the same size as wheat, making them difficult to clean from wheat seed and increasing the chance that the weed seed is planted with the crop the following year.

Valuable information regarding jointed goatgrass biology and management has been discovered through this research initiative. Research indicates that interrupting the life cycle of jointed goatgrass with spring seeded crop rotations or other cultural practices may provide effective control. Long term research in many wheat producing states has dramatically improved the Best Management Practices (BMPs) for controlling jointed goatgrass.

Although crop rotation is perhaps the most important single component in managing jointed goatgrass, other management components can help minimize competition with winter wheat. Combining multiple cultural practices, including crop rotation, competitive wheat varieties, and proper fertilizer placement, into a integrated jointed goatgrass management program can further improve control compared to using only single components. Although jointed goatgrass competition with winter wheat cannot be eliminated through any combination of practices reviewed here, clearly the proper combination of these factors can limit the growth and seed production of jointed goatgrass. Scientists continue to further examine the best management practices to effectively control jointed goatgrass.

Growers using these BMPs will have cleaner wheat fields, reduced dockage, and better yields. Keep in mind that certain strategies may not be appropriate in all regions. Additional information regarding the management and biology of jointed goatgrass or other aspects of this national research initiative can be found online at *www.jointedgoatgrass.org*.

2003 North Central Weed Science Proceedings 58:157.