

INFLUENCE OF TALL GOLDENROD REMOVAL ON TOTAL FORAGE YIELD AND QUALITY OF TALL FESCUE HAY FIELDS. Kristin K. Payne\*, Eric B. Riley, Jimmy D. Wait, Kevin W. Bradley, Graduate Research Assistant, Research Specialist, Research Associate, Assistant Professor, University of Missouri, Columbia, MO 65211.

Field experiments were conducted in 2006 and 2007 to evaluate the effect of various herbicides on tall goldenrod (*Solidago altissima* L.) control, total forage quality and total forage yield in tall fescue (*Festuca arundinacea* Schreb.) pastures in Missouri. Aminopyralid, aminopyralid plus 2,4-D, aminopyralid plus metsulfuron, aminopyralid plus metsulfuron plus 2,4-D, metsulfuron, metsulfuron plus dicamba plus 2,4-D, and 2,4-D plus picloram were applied at various rates to tall goldenrod ranging from 26 to 28 cm in height in the spring of 2006 and 2007. Aminopyralid and aminopyralid plus 2,4-D provided the lowest tall goldenrod visual control and highest tall goldenrod density one year after treatment (YAT) compared to all other herbicides. All treatments except aminopyralid resulted in a 76 to 99% reduction in tall goldenrod stem density compared to the untreated control 1 YAT. There were no forage yield or quality differences between herbicide treatments, therefore all forage yield and quality data were combined across herbicide treatments and compared to the untreated control. Total forage yield was lower in herbicide-treated compared to untreated plots within season and 1 YAT, likely due to tall goldenrod remaining in untreated compared to herbicide-treated forage. One YAT, crude protein (CP) content increased by 2.5% and acid detergent fiber (ADF) and neutral detergent fiber (NDF) content decreased by 2.4 and 6.4%, respectively, in forage harvested from untreated compared to herbicide-treated plots. Pure samples of tall goldenrod collected at the time of each harvest were lower in CP, ADF and NDF content than pure samples of tall fescue collected at the same harvests. Results from this study indicate that a variety of herbicide treatments will provide good control of tall goldenrod, but tall goldenrod infestations may not reduce the quality or quantity of total forage harvested in tall fescue pastures. However, other factors such as tall goldenrod palatability and digestibility should be considered.