INFLUENCE OF SELECTED HERBICIDE TREATMENTS ON TALL GOLDENROD CONTROL, TOTAL FORAGE YIELD, AND TOTAL FORAGE QUALITY IN TALL FESCUE PASTURES.
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Field experiments were conducted in 2006 and 2007 to evaluate the effect of various herbicides and herbicide combinations on tall goldenrod (*Solidago altissima* L.) control, total forage yield, and total forage quality in mixed tall fescue (*Festuca arundinacea* Schreb.) and legume pastures in Missouri. In separate experiments, aminopyralid, aminopyralid plus 2,4-D, aminopyralid plus metsulfuron-methyl, aminopyralid plus metsulfuron-methyl plus 2,4-D, metsulfuron-methyl, metsulfuron-methyl plus dicamba plus 2,4-D, and 2,4-D plus picloram were applied at various rates to goldenrod that was 26 to 28 cm in height on May 4, 2006 and May 11, 2007. In both years, aminopyralid and aminopyralid plus 2,4-D provided lower within-season tall goldenrod control compared to the remaining herbicide treatments. One year after treatment (YAT), all herbicides and herbicide combinations except aminopyralid provided 71 to 98% tall goldenrod stem reduction. Applications of aminopyralid alone provided virtually no tall goldenrod stem reduction 1 YAT when compared to the untreated control. In both years, total forage yield was higher in untreated compared to herbicide-treated plots for the first forage harvest conducted in June and few differences in acid detergent fiber (ADF), neutral detergent fiber (NDF), or crude protein (CP) content were observed between forage harvested from herbicide-treated and untreated plots. However, 1 YAT forage harvested from untreated plots was lower in ADF and NDF content and higher in CP content than herbicide-treated plots, which may be partially explained by the presence of red clover (*Trifolium repens* L.) in untreated compared to herbicide-treated plots 1 YAT. Analyses of pure samples of tall fescue and tall goldenrod collected at each harvest revealed that CP content of tall fescue and tall goldenrod was similar, but that ADF and NDF content was lower in tall goldenrod than tall fescue. Results from these experiments indicate that goldenrod infestations may not necessarily reduce the quality or quantity of total forage harvested from tall fescue and legume pastures, but that additional research is needed to investigate the palatability and/or intake of cattle grazing or fed tall goldenrod, as this species continues to be a common weed of pastures and hay fields in Missouri.

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