

Public Abstract

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Graduation Term:FS 2009

Department:Plant, Insect and Microbial Sciences

Degree:MS

Title:INFLUENCE OF HERBICIDE APPLICATIONS AND COMMON PASTURE WEEDS ON TOTAL FORAGE YIELD AND NUTRITIVE VALUES IN TALL FESCUE PASTURES AND HAYFIELDS IN MISSOURI

Currently, little research is available on the effects of common pasture weeds on forage yield or nutritive values in tall fescue pastures and hayfields in Missouri. This, coupled with the recent influx of new pasture herbicides onto the marketplace has led many growers to question their options for weed management in a grass pasture or hayfield. Therefore, research trials were conducted to evaluate herbicide applications on tall goldenrod (*Solidago canadensis* subsp. *altissima* (L.)), common ragweed (*Ambrosia artemisiifolia* L.), and tall ironweed (*Vernonia gigantea* (Walt.) Trel) control, evaluate the effect of herbicides on total forage yield and nutritive values, and evaluate the effects of increasing densities of common ragweed and common cocklebur (*Xanthium strumarium* L.) on total forage yield and nutritive values. Experiments were conducted in tall fescue pastures from 2006 to 2009 in several locations in central and southwest Missouri. Results from these experiments indicate that a variety of herbicide treatments will provide good control of these weed species in a typical pasture or hayfield environment. However, across all experiments, total forage was usually greater and total forage nutritive values were usually improved in untreated forage compared to forage treated with a herbicide. The increase observed in the untreated forage is predominately due to higher densities of weed and legume species. Examinations of the nutritive values of pure samples of weeds revealed that tall goldenrod, tall ironweed, and common ragweed provide greater nutritive value than tall fescue when forage harvest occurs in June. Collectively, the results from these experiments indicate that weed infestations may not necessarily reduce the nutritive values or yield of total forage harvested from tall fescue pastures and hayfields, but additional research is necessary to determine why these species continue to be problems in Missouri tall fescue pastures and hayfields.