

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

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ABSTRACT

The addition of several new herbicides labeled for pastures or hayfields has led many growers to question their options for weed management in these environments. In addition, little is known about the influence of common pasture weed species on total biomass yield and nutritive values in a pasture or hayfield setting. Therefore, research was conducted to 1) evaluate the effect of various herbicides on the control of tall goldenrod (*Solidago canadensis* subsp. *altissima* (L.)), common ragweed (*Ambrosia artemisiifolia* L.), and tall ironweed (*Vernonia gigantea* (Walt.) Trel), 2) evaluate the effect of herbicides on total biomass yield and nutritive values, and 3) evaluate the effects of increasing densities of common ragweed and common cocklebur (*Xanthium strumarium* L.) on total biomass yield and nutritive values. Results from these experiments indicate that a variety of herbicide treatments will provide good control of several common pasture weed species, but that infestations of these weeds may not necessarily reduce the nutritive values or yield of the total biomass harvested. For example, biomass yield increased from 1 to 6 kg ha⁻¹ and crude protein decreased by 0.4 g kg⁻¹ as common ragweed or common cocklebur density increase within a tall fescue stand. In all experiments, nutritive values of pure weed species samples revealed that most pasture weed species provide greater values than pure tall fescue when forage harvests occur in June. Additional research is necessary to investigate why these species are not consumed by cattle and continue to be a problem in Missouri tall fescue pastures and hayfields.