BIOLOGY AND MANAGEMENT OF CRESSLEAF GROUNDSEL. Jeremy T. Lake and Aaron G. Hager, Graduate Research Assistant and Assistant Professor, Department of Crop Science, University of Illinois, Urbana, IL 61801.

The number of fall applied and preplant herbicide programs for control of winter annual weeds has increased along with the number of acres in conservation tillage. In central and southern Illinois, along with many other surrounding states, cressleaf groundsel, also known as butterweed, has become a prominent weed species in no-till systems. Little information is known about the biology and management of cressleaf groundsel. Field studies were conducted in the fall of 2004 and spring of 2005 to observe biological characteristics associated with cressleaf groundsel. Studies were also carried out to determine possible herbicide management strategies for control of cressleaf groundsel. These studies were established on four cooperator fields in Douglas, Fayette, Piatt, and Vermillion counties. Biological characteristics that were observed included: periodicity of emergence, rosette diameter prior to overwintering, winter survival, spring rosette diameter continuation, and time to bolting and flowering. Herbicides evaluated for possible cressleaf groundsel control consisted of: 2,4-D, dicamba, glyphosate, clomazone, paraquat, flumioxazin, quinclorac, chlorimuron, tribenuron, mesotrione, atrazine, imazaquin, simazine, and pendimethalin. These herbicides were applied and evaluated for both fall and spring control of cressleaf groundsel. Visual ratings were taken 103 days after treatment (DAT) of the fall applied and 21 DAT of the spring applied treatments. Visual ratings demonstrated that a fall application of 2,4-D, glyphosate, imazethapyr + glyphosate, paraquat, glyphosate + 2,4-D, flumioxazin, chlorimuron + tribenuron, imazaquin + 2,4-D, simazine + paraquat, or pendimethalin + glyphosate + 2,4-D provided the greatest control among all treatments. Evaluations of spring-applied treatments indicated that glyphosate, glyphosate + 2,4-D, chlorimuron + tribenuron, or simazine + paraquat provided the greatest.

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