

STRATEGIES TO CONFIRM AND MANAGE ALS-RESISTANT COMMON CHICKWEED IN WHEAT IN KENTUCKY (2013-2014)

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INTRODUCTION

There is mounting evidence that ALS-resistant common chickweed may be present in Kentucky. This resistance was first reported in New Zealand and in Europe in the mid 1990's and is now present in Virginia, Maryland, Delaware, North Carolina, and Pennsylvania. This research was conducted to confirm the presence of ALS-resistance in common chickweed in Kentucky and to compare herbicide options for managing this problem weed in wheat.

GREENHOUSE STUDIES

Seed from three suspect populations were used to grow plants for greenhouse trials. Results of two series of experiments indicated that plants survived a label rate and 10 times the label rate of Harmony Extra or Finesse. (See Figure 1 for plant response to 10X rate of Harmony Extra & Finesse)

FIELD STUDIES

Field trials were initiated at two sites to evaluate a number of herbicide options to manage chickweed. The Christian County location involved a suspect population that had

escapes that were previously treated with Finesse by the farmer; whereas, the UKREC population was ALS-susceptible.

The Christian County site focused on postemergence treatments applied in the fall and spring. Treatments that were applied to chickweed at 0.6 inches in diameter (Early Post Fall) and provided at least 96% control included metribuzin 75% DF at 2 or 4 oz/A and Huskie at 13.5 oz/A. Similar results were observed when treatments were applied to chickweed 2.33 inches in diameter (Mid Post Fall). Delaying applications until spring when chickweed was 5.5 inches in diameter resulted in less control with Huskie and Starane Ultra. However, control was at least 93% for metribuzin applied in the spring at 4, 6, and 8 oz/A.

The chickweed population at the UKREC location was sporadic and experienced freeze damage from cold winter temperatures. Although data are not reported for this site, the early preplant treatments of Valor (flumioxazin) provided as good or better control than metribuzin. Similar results have been reported by scientists in other states.

**HARMONY EXTRA 9 oz/A
(10 X Rate)**



**FINESSE 4 oz/A
(10 X Rate)**



FIGURE 1. Chickweed Response to 10 X rate of Harmony Extra and Finesse for Nontreated checks (Samples 1 & 2) and Three Suspect Populations from Grower's Fields. (Samples 3, 4, & 5)

Table 1. ALS-Resistant Common Chickweed Control with Postemergence Herbicides - Christian County 2013 - 2014

<u>Herbicide</u>	<u>Application Timing</u>		
	Early Post Fall	Mid Fall Post	Spring Post
	-----% Chickweed Control -----		
Axiom 6 oz/A	87	---	---
Metribuzin 2 oz/A	97	96	73
4 oz/A	97	96	93
6 oz/A	---	---	100
8 oz/A	---	---	100
Huskie 13.5 oz/A		98	77
Starane Ultra 0.3 pt/A	---	93	---
0.4 pt/A	---	---	80
Clarity 4 oz/A	---	---	90
	LSD 8%		
	<u>Chickweed</u>	<u>Wheat</u>	
Early Post Fall (EP Fall):	(11-07-13) 0.6' diameter	1 tiller	
Mid Fall Post:	(12-02-13) 2.33" diameter	2 tiller	
Spring Post:	(04-01-14) 5.5" diameter	7 tiller	

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