EFFICACY OF FALL AND SPRING APPLIED BAS 800 ON GLYPHOSATE-RESISTANT HORSEWEED (CONYZA CANADENSIS).

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INTRODUCTION

In Indiana approximately 95% of soybean and 60% of corn are Roundup Ready and see some form of glyphosate application yearly. This applies selection pressure, increasing the potential for developing problematic glyphosate resistant biotypes. Glyphosate-resistant horseweed (Conyz a canadensis) has become a problematic weed for no-till growers in southern Indiana and Illinois. Growers in these regions are looking to the Agricultural Chemical Industry for new tools for managing glyphosate-resistant horseweed.

BAS800, proposed common name saflufenacil, is a new active ingredient in these regions are looking to the Agricultural Chemical Industry for new tools for managing glyphosate-resistant horseweed. BAS800 is a member of the PPO class of herbicides and has been reported to have activity on horseweed. Field studies were conducted in Indiana and Illinois to investigate BAS800 efficacy and residual activity on horseweed.

Methods and Materials

**Locations:** South East Purdue Agricultural Center, Butlerville, IN
Southern Illinois University, Murphysboro, IL

**Application:** Early Fall – Oct. 15 -30

**Times:** Late Fall – Nov. 15 -30
Early Spring – Mar. 15 – 30
Late Spring – Apr. 15 – 30

**Treatments:** All treatments were applied with 840 g ae/ha glyphosate
1. 50 g ai/ha BAS800 – Low
2. 100 g ai/ha BAS800 – Hi
3. 35 + 11 g ai/ha chlorimuron-ethyl + thribenuron
4. 72 g ai/ha flumioxazin
5. 1120 g ai/ha simazine
6. 560 g ai/ha 2,4-D

**Data Collected:** Biweekly, March to July

**Data:** Data were log transformed, averaged over year and location, back transformed and analyzed using SAS mixed procedure. Transformed data are presented.

RESULTS

In the regions the study was conducted horseweed predominantly germinates in the spring. These spring germinating horseweed can escape fall applied herbicides.

- BAS800 applied in the fall, did not reduce horseweed density in the spring.
- Chlorimuron-ethyl + thribenuron when applied in the fall decreased horseweed greater than other treatments up to late June counts
- Bas800 performed best when applied in the spring reducing horseweed density 78% and 87% from the untreated.
- Excluding the late spring application, 2,4-D + glyphosate had higher numbers than the check at later counts.

Treatments that have little or no residual activity, but controlled competing winter annuals, such as the standard 2,4-D + glyphosate, appeared to release horseweed from competition allowing increased numbers in the spring.

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