**Introduction**

Adoption of glyphosate-resistant corn among Indiana growers is proceeding at a rapid rate. Since 60 to 80 percent of soybeans are grown under no-till conditions, volunteer glyphosate-resistant corn is a common weed problem in fields where corn and soybeans are grown in rotation. There are several postemerge herbicides available for soybeans that have shown good control of volunteer glyphosate-resistant corn; however, more information is needed on the appropriate application timing and the influence of imazethapyr herbicide on the efficacy of postemerge grass herbicides.

**Objective**

To evaluate various herbicides and application timings for control of volunteer glyphosate-resistant corn in glyphosate-resistant (Roundup Ready) soybeans.

**Materials & Methods**

**Planting**

Glyphosate-resistant corn was spread over the trial area and lightly tilled in with a field cultivator. Glyphosate-resistant soybeans were then planted in 76 cm rows. Both varieties are glyphosate-resistant. Field Trials were conducted at TPAC in West Central Indiana and SEPAC in Southeastern Indiana.

**Application Timing**

Herbicides were applied when volunteer corn was 25- to 38- cm or 56- to 66- cm tall. Soybeans were V3 – V4 or R1 stage. All treatments contained a non-ionic surfactant at a 25% ratio, Ammonium Sulfate at 17 lbs per 100 gallons and glyphosate.

**Single Treatment Rates**

- Fluazifop: .094 lb ai/a or .043 kg ai/ha
- Clethodim: .094 lb ai/a or .043 kg ai/ha
- Quizalofop: .0413 lb ai/a or .0187 kg ai/ha
- Imazethapyr: .81 lb ai/a or .367 kg ai/ha
- Imazamox: .039 lb ai/a or .0177 kg ai/ha

**Data Collection Analysis**

Visual control ratings were collected at 56 days after treatment.

**Conclusion**

Clethodim, fluazifop, and quizalofop provided 90 to 100 percent control when applied to 25- to 38- cm volunteer corn. Clethodim, fluazifop, and quizalofop did not impact control of volunteer corn. The addition of imazethapyr to clethodim, fluazifop, and quizalofop did not impact control of volunteer corn. Imazamox provided 94 to 100 percent control when applied to 25- to 38 cm volunteer corn. Control by itself was less at TPAC which experienced drier weather near the application date.

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