

Dicamba Herbicide Demonstration for Soybean

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Introduction

Soybean varieties tolerant to dicamba herbicides became available in 2017. Dicamba-tolerant soybean varieties are genetically modified to tolerate pre-emergence and post-emergence applications of dicamba herbicides.

Dicamba herbicides offer a new site of action of weed control in soybean. Dicamba herbicides applied in soybean will provide broadleaf weed control without crop injury.

This study was conducted to demonstrate the application of dicamba herbicides to dicamba-tolerant soybean varieties for the control of waterhemp.

Materials and Methods.

The research area was corn in 2016. The variety Aurelia's Verde Amaranth grain amaranth was applied to the research area at a rate of 0.6 lb/acre (544,000 seeds/acre) to simulate the presence of waterhemp. The research area was field cultivated and planted to Pioneer soybean variety P16A35X at 140,000 seeds/acre June 6, 2017.

Herbicide treatments were applied with a CO₂ backpack sprayer that delivered 20 gallons/acre at 40 PSI with 8002 flat fan nozzles. Thirteen treatments, one untreated check, and three replications were included.

Dicamba herbicide products were either Xtendimax herbicide or Engenia herbicide.

Results and Discussion

Applications of Verdict plus Outlook herbicide pre-emergence (PRE) applied June 6, followed by Xtendimax plus glyphosate, provided nearly 100 percent control of the amaranth species.

Dicamba was applied PRE June 6 and delayed pre-emergence (DPRE) June 14 to demonstrate the ability of the dicamba products to provide pre-emergence weed control. The PRE and DPRE treatments applied at 22 oz/acre of Xtendimax provided 60 percent and 50 percent control of amaranth species, respectively. The 44 oz/acre rate of Xtendimax provided slightly better control.

The grain amaranth used in this study was very susceptible to glyphosate. Therefore, all tank mix treatments of glyphosate plus dicamba provided nearly 100 percent control of all amaranth species in this study.

However, the dicamba treatments applied without glyphosate also demonstrated nearly 100 percent control of the amaranth species.

This study demonstrates using dicamba herbicides with dicamba-tolerant soybean varieties can be an effective weed control program. Dicamba herbicides demonstrate control of waterhemp species in this study when applied pre-emergence, delayed pre-emergence, or post-emergence.