

MESSENGER-INQUIRER

 Cooperative
Extension Service



Farm Update

daviess.ca.uky.edu

AGRICULTURE & NATURAL RESOURCES
EDUCATION

Clint Hardy

Daviess County Extension Office

June 8, 2024

Evaluation of Foliar Fungicides on Soybean in 2023

Dr. Carl A. Bradley, the Extension Soybean Pathologist at the University of Kentucky Research and Education Center in Princeton, conducted research in 2023 to evaluate different fungicide products for management of frogeye leaf spot and their impact on soybean yield.

NK Brand NK43-Y9XFS was planted on May 22, 2023, at 135,000 seeds/A. Plots were no-till planted into soybean stubble from the previous crop. Plots were 4 rows wide on 30 inch row spacings and 21 ft long. Each treatment was replicated four times in a randomized complete block design. Foliar fungicide treatments were applied to plots at the R3 soybean development stage using a backpack sprayer calibrated to deliver 20 gal/A on August 1, 2023. Severity of frogeye leaf spot was rated multiple times starting 2 weeks after treatment application and then every two weeks after that. The disease severity was rated by evaluating leaves in the upper canopy and estimating the percentage of leaf area affected by frogeye leaf spot.

Plots were harvested with a small plot combine which collected total plot weight and seed moisture and concentrations of protein and oil in the seed. Yields were calculated and standardized to bushels per acre at 13% moisture. Final disease severity in the nontreated check was relatively high, 41.7%. All treatments significantly reduced frogeye leaf spot severity compared to the non-treated check. Lucento treated plots had the lowest frogeye leaf spot

MESSENGER-INQUIRER

severity, but were not statistically different than Revytek, Veltyma, Topguard EQ, Delaro Complete, Initate 720 + Monsoon + Topsin 4.5 FL, Miravis Neo, Trivapro, or Topsin 4.5 FL. No statistically significant differences among treatments occurred for yields or protein and oil concentrations.

Widespread resistance to quinone outside inhibitor (QoI) fungicides in the frogeye leaf spot pathogen (*C. sojina*) are present in Kentucky and other states. These research results show that alternative chemistry classes can be used to effectively manage frogeye leaf spot. Although the only QoI single active ingredient product evaluated in this trial (Quadris) did significantly reduce frogeye leaf spot severity relative to the non-treated check, all other products evaluated performed better than Quadris. When considering foliar fungicide products, it is important to utilize products that contain fungicide active ingredients from classes other than QoIs for the best efficacy.

This research was funded by a Multi-Regional Soybean Checkoff grant distributed by the North Central Soybean Research Program and is part of a collaboration called the North Central Regional Committee on Soybean Diseases which annually updates foliar fungicide efficacy for control of major foliar soybean diseases in the United States. The committee ratings for fungicides labeled for control of foliar diseases in soybean is on my website at <https://daviess.ca.uky.edu/anr>.

Corn Fungicide Application Coverage Research Results

In order to provide research-based data farmers can use in determining which application technique and corn height best meet their needs, Extension Corn Pathologist, Dr. Kiersten Wise conducted research on land farmed by Jason and Dustin Hagan last summer. Dr. Wise has

MESSENGER-INQUIRER

received permission to discuss the results of the trial, and with timing of fungicide to corn upon us, we will have a meeting at 6:30p.m. June 20 at the extension office to discuss the results. This field scale research project has provided information pertaining to the yield prospects of two different reduced height corn varieties compared to a proven normal height corn and data related to the success and limitations of application by ground sprayer, aerial helicopter, and aerial autonomous drone application techniques. In addition to comparing yield, each application technique included a tracer product in which random leaves were collected and analyzed for chemical analysis to determine the percentage of leaf area deposition by the different techniques.

Pest Management Field Day

Dr. Travis Legleiter, Extension Weed Specialist at Princeton, has a field day planned for June 27 highlighting his research in herbicide weed control from 8:30 a.m. to 12:30 p.m. His work in waterhemp and palmer amaranth will be the focus of the morning, specifically looking at soil residual control options, and post-emergence weed control in soybean and corn. Register by calling 270-365-7541 ext. 22569 by June 20.

The Martin-Gatton College of Agriculture, Food and Environment is an Equal Opportunity Organization with respect to education and employment and authorization to provide research, education information and other services only to individuals and institutions that function without regard to economic or social status and will not discriminate on the basis of race, color, ethnic origin, national origin, creed, religion, political belief, sex, sexual orientation, gender identity, gender expression, pregnancy, marital status, genetic information, age, veteran status, physical or mental disability or reprisal or retaliation for prior civil rights activity.