Controlling Cotton Root Rot in Texas

ECONOMIC IMPACTS OF EXTENSION EDUCATION

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FUNGUS THREATENS THE VIABILITY OF COTTON

- For more than a century, the fungal disease cotton root rot has been one of the most destructive cotton diseases in Texas.
- Cotton root rot reduces yield, fiber quality, and harvest efficiency on an estimated 1.5 million acres in Texas annually. With the disease essentially eliminating harvestable cotton on affected acres, economic losses from cotton root rot are estimated at $29 million each year.

AGRILIFE EXTENSION'S RESPONSE

- As cotton producers identified this issue with county extension agents at the local level, in 1998 the Texas A&M AgriLife Extension Service began to screen new classes of fungicides to control for cotton root rot.
- Beginning in 2005, AgriLife Extension collaborated with Southern Rolling Plains cotton producers to evaluate fungicides in dedicated fields using several application methods. Cotton Incorporated's Texas State Support Program funded these efforts.
- After evaluating the effectiveness of flutriafol (used in TOPGUARD TERRA®, manufactured by FMC*) in 2008 and subsequently validating and expanding the promising results, AgriLife Extension compiled data from 2010 and 2011 field trials. This information was used to apply for a Section 18 emergency exemption label for flutriafol with the Texas Department of Agriculture and the U.S. Environmental Protection Agency. The emergency exemption was granted in February 2012.
- In February 2015, a Section 3 label was granted for a new formulation of the fungicide, allowing cotton producers statewide to use flutriafol for cotton root rot control.
- Since 2010, AgriLife Extension has provided educational outreach to more than 10,300 contacts at 181 educational meetings on the appropriate use of the fungicide flutriafol for cotton root rot control.
- AgriLife Extension worked with industry to develop more than 30 publications and newsletter articles on proper application methods, which were distributed to some 8,000 producer contacts. In addition, educational articles were distributed through various mass media outlets, with a circulation of more than 29,000.

ECONOMIC IMPACTS

- In 2024, flutriafol was used on an estimated 97,000 acres of irrigated cotton and 406,000 acres of dryland cotton (503,000 total acres).
- The total net economic benefit to growers was estimated at $26.9 million ($99 per irrigated acre and $42 per dryland acre) in 2024 alone.
- These benefits are conservative, as they do not include the value of improved harvest efficiency and fiber quality.

**References to commercial products or trade names are based on label information and on research conducted by the Texas A&M AgriLife Extension Service and are not intended as an endorsement of any specific product or manufacturer.*