MANAGING INSECT PESTS OF COTTON – TARNISHED PLANT BUG

Challenges

- Tarnished plant bugs are the most economically damaging pest affecting cotton producers, especially in the Delta region of Mississippi.
- Delta farmers typically make an average of five to nine insecticide applications each year to combat this pest.
- Controlling tarnished plant bugs requires farm-specific strategies.
- Controlling this pest requires a variety of production practice changes—earlier planting, limiting nitrogen, incorporating different plant varieties, and changing insecticide application practices.

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Extension Response

Extension has worked for the past two decades to provide solutions to help farmers deal with this pest.

- Extension faculty and professional staff develop and deliver research demonstrations, workshops, various publications, and one-on-one technical assistance activities.
- Recommended practice changes include earlier planting, limiting nitrogen application, incorporating hairy leaf cotton varieties, using a window approach to insecticide treatments, and shortening treatment intervals during high-pressure situations.
- Research has shown adoption of recommended strategies could increase yields by 200 pounds per acre and reduce the number of insecticide applications by three per year.
- Adopting the recommended practices increases cotton producers' sustainability and benefits the environment through reduced nitrogen and insecticide applications.

Economic Impacts

- Given a conservative adoption rate of 75% for the **203,504 acres** of cotton grown in the Delta, adopting one or more of these practices could increase producer revenues by an estimated **$24.2 million**.
- Decreasing the number of pesticide applications could save farmers an estimated **$6.1 million**.
- Adopting recommended practices has the potential to increase farm income by **$30.3 million**.
- This increase in revenue could support an estimated **185 jobs**, earning **$9.6 million**.
- As a result, value-added activities in the state could increase by **$18.5 million** and output by **$45.2 million**.
- Local taxes could increase as a result by an estimated **$73,999** for municipalities, **$184,408** for local special districts (e.g., school districts), and **$145,625** for county governments.
- State taxes could increase by an estimated **$951,911** and federal taxes by an estimated **$2.1 million**.
- Increases in tax revenues are based solely on increased output by producers. This analysis assumes no increase in tax rates or change in the current tax structure.