



Mississippi Corn Promotion Board 2025 Progress Report



Project Title: Estimation of Economic Costs and Implications of Potential Spray Buffer Requirements due to the Endangered Species Act Herbicide, Insecticide and Fungicide Label Requirements

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Project Summary (Issue/Response)

“The Endangered Species Act (ESA) was passed in 1973. The law requires governmental agencies to ensure any actions they take do not jeopardize any species that has been listed as endangered or threatened. The Environmental Protection Agency’s (EPA) Office of Pesticide Programs (OPP) is the federal agency that regulates pesticide use. Because the use of pesticides can affect both animals and plants as well as their habitats, pesticide registrations are considered “actions” that would trigger an endangered species consultation.

Objective 1 Crop field border percentages will be estimated. The GIS estimation of the percent of corn fields that could be deemed as borders is critical in the estimation of the potential economic losses of complying with the enhanced label requirements for the ESA.

Progress is on-going on field edge estimation. A post-doc has been hired, and estimations are currently underway to measure and refine field borders/edges for various border sizes.

Project Results/Outcomes

In 2025, preliminary estimates were made on all corn fields in Mississippi. Based on 2024 plantings, descriptive statistics on MS corn acreage for 2024 are

14,706 corn fields

Average size – 31.47 acres

Range – 2.13 acres to 879.06 acres

Field reduction estimates based on GIS data

320-foot border – average field reduction of 75.71%

40-foot border – average field reduction of 15.40%

These are “complete” field borders meaning around the whole field.

Average corn revenue per acre in Mississippi for 2024 was estimated at \$822.80 per acre based on USDA yields (187 bushels per acre; average across irrigated and non-irrigated) and USDA MYA price (\$4.40).

A 320-foot buffer (75.71%) could mean over \$600 in lost revenue per acre.

A 40-foot buffer (15.40%) could mean over \$125 in lost revenue per acre.

Project Results

Overall Progress

Objective 1, field border initial estimates have been made. More work is needed in 2026 and 2027 to account for wind direction and for adjacent crop fields.

Cost estimates have made for selected buffer widths

Objective 3 will begin after Objectives 1 & 2 are complete.

Project Impacts/Benefits

- Accurate estimates of the amount of crop revenue lost due to field buffer requirements is critical for producer profitability .
- These project has begun those estimates and will refine the results in the coming year.
- Knowing what the potential revenue losses are will allow producers and policy makers to informed decisions on future policy as well as day to day selection of pesticides

Project Deliverables

Results will be presented to the CPB , grower meetings and shared with farm advocacy organizations

Additional Questions

1. What value does this research give the grower? Describe any financial decision-making tools your project provides.

With potential revenue losses ranging from \$125-\$600 per acre this project has tremendous financial implications for growers. Once the project is finalized, growers will be able to more accurately determine production practices that limit field buffer requirement exposure. Additionally, the costs associated with implementing other practices that reduce buffer requirements will provide growers with additional decision making information.

3. List other sources of funding you have acquired over the past 2 calendar years.

Supported by CI 2024 and 2025 and for 2026

RPB for 2025 pending 2026

SPB for 2025 pending 2026