



SOYBEAN SEED VARIETY TRIALS

Challenges

- Between the 2002 and 2022 Censuses of Agriculture, planted acres of soybeans for beans increased 75.3% and average planted acres per farm increased 81.9%.
- Genetically modified seed is used on 91% of soybean acres; many were “stacked” varieties that offered multiple protective traits such as multiple types of pest resistance, herbicides, and drought tolerance.
- With 100 or more seed options, Mississippi producers have little basis to effectively evaluate varietal performance across varying production systems without broad, independent testing.

EXTENSION RESPONSE

To help producers face this challenge, Mississippi State University Extension Service faculty and professional staff developed the MSU Extension Soybean Variety Demonstration Program.

- In 2023 (for crops planted in 2024), the program evaluated 52 of the top performing soybean varieties from nine seed companies in 31 local, on-farm demonstration plots throughout the state.
- The program allows growers, crop consultants, and other professionals to observe the performance of elite varieties, plant characteristics, and environmental responses on large acreages.
- Varieties are voluntarily entered for evaluation and represent the primary maturity groups grown in the state.
- Irrigated and dryland trials on varying soil textures are conducted on multiple cropping systems over multiple locations to increase the reliability of results.
- Seed companies are granted the discretion to enter their best adapted varieties and genetic traits; this helps to create an elite group of varieties for evaluation.

ECONOMIC IMPACTS

- Data from the 2023 trials (for crops planted in 2024) showed that the best soybean varieties improved yields by **8.6 bushels per acre**.
- Given a 90% adoption rate, this could result in an increase in revenue of **\$184.3 million** for Mississippi soybean producers.
- We estimate that this revenue increase could result in an additional **1,205 jobs** earning **\$67.5 million**, generate **\$171.5 million** in value-added, and result in **\$273.7 million** in additional output for the state.
- We estimate an increase in taxes could accrue to county governments of **\$1.1 million**, to special taxing districts of **\$1.4 million**, and to municipalities of **\$549,406**.
- This increase in output could generate an additional **\$7.5 million** in state tax revenues and **\$14.6 million** in federal tax revenues.



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TAKING CARE OF WHAT MATTERS