

Boots on the ground: Validation of benchmarking process through an integrated on-farm partnership

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Overview of project objectives

Analysis of data from a producer survey performed during the previous three-year NSCRP-funded benchmarking project (Benchmarking Soybean Production Systems in the North Central U.S.) revealed an average yield gap of 20-30 percent. A yield gap is the difference between current yield and potential yield as determined by climate, soil and genetics. The survey also revealed a number of agronomic practices that could be fine-tuned to close the yield gap and improve producer profit. This project focuses on showing how the data from the survey could be used to identify and evaluate management changes on farms in the North Central U.S. The project goal is to validate a novel research approach that uses self-reported on-farm production practices, with on-farm validation to identify management practices with the greatest impact on yield and profit. State-to-state research collaboration will be strengthened; and farmer-to-farmer networks will be built.

Key results

A kick-off meeting was held in November 2019 and a follow up meeting in November 2020 with project collaborators discussing objectives, logistics and protocols. On-farm research fields were identified, and trials began in Spring 2020. Data collection from the research trials is ongoing. To promote the work, live interviews on Twitter with participating farmers were held; an Extension publication, "Benchmarking Soybean Production Systems in the North Central U.S." containing Year 1 results was distributed and has been shared with collaborators. Other professional manuscripts have been published or in the process for publication.

Benefit to farmers

The potential impact of the outcomes from this project is significant. On-farm validation of identified management strategies across the North Central region will impact 60 million acres of soybeans. For example, farmers within a region where planting date was a significant management factor, would realize a production increase of 4.7 million bushels per day (0.24 bu/acre/day yield increase on 19.5 million acres). This impact figure was estimated based on previous benchmarking project analysis of on-farm yield data.

Links:

[Benchmarking soybean production systems in the North Central U.S.](#) *USB National Soybean Checkoff Research Database*

[Boots on the Ground: 2019 On-Farm Trials Report](#), *Wisconsin Soybean Marketing Board, 2019*