



North Central Soybean Research Program

Multi-State On-Farm Partnership

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This grant funded on-farm research projects on best management practices to increase yield, profitability, and sustainability of soybean production in the North Central Region. Following is a brief description of the projects. With excessive rainfall in the upper Midwest, the project is waiting on final yield results. A final report on yield results will be made available during the winter of 2019.

Soybean population/VRS Trials- Purpose of these trials is to optimize seeding rates in soybeans. A second component of this project is to understand the value of variable rate seeding in soybeans as well as best practices for creating management zones for variable rate seeding. Yield monitor data will be overlaid with soils, yield history zones and remote sensing to determine which methodologies lead to optimized management zones for soybean VRS. Project anticipates 20 trials in 2018.

Layered Residuals in soybean production- Purpose of this project is demonstrate and characterize the value of layered residuals for weed management in soybean production. Cooperators compared post-emergence soil active herbicides vs no layered residual for end of season weed control and yield.

“Vigeo” non-traditional amendment- Results from 2017 indicated yield enhancement for a non-traditional amendment called Vigeo. This product contains kinetin, auxin and gibberlin growth regulators. Four sites were established in 2018.

Azospirillum Inoculant- Scientific results from South America indicate that azospirillum biological inoculant enhances nodulation and yield in soybeans. This project characterizes an azospirillum containing inoculant called TerraMax. Mid-season evaluations indicated greater vigor and greater canopy for inoculated treatments applied in-furrow. Waiting on yield results.

Soybean responses to foliar boron- There are some reports in the research literature that applications of boron can enhance nodulation, protein and yield in soybean production. This project characterizes foliar boron applications at twelve locations.

Soybean Tillage Research- Scientific literature is confounded on the value of tillage in soybean production. Reports from Wisconsin indicate a yield advantage to tillage while a ten-year study conducted in Iowa indicate no advantage to tillage in soybean production. This trial characterizes no-till vs full width tillage in soybean production at five locations. Project also includes a few fields of strip tillage vs conventional tillage. Waiting on yield results.

Soybean Fungicide Research- The Iowa Soybean Association has developed a decision tool for making the best economic decisions regarding fungicide use in soybeans. In this research, we add 15 more locations of fungicide data to this decision tool.

Closing wheel study in cover crops- Five different styles of closing wheels were tested when planting soybeans into killed cereal rye. The purpose was to understand whether any of these aftermarket products would enhance stand establishment in a cover crop system. Study found very small differences among closing wheels on final stand establishment. However, conditions at planting were very ideal and sidewall compaction was not noted in any treatments including the standard rubber closing wheels. Study must be repeated under less than ideal conditions.