

# Improvement of soybean yield across MN: benchmarks, the role of maturity group and nutrient deficiencies

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## Project summary

This proposal leverages a large NCSRP project to establish a multi-site experiment that will assess attainable yield, the effect of maturity group, and the magnitude of nutrient deficiencies for different representative localized environments across Minnesota. This information is not currently available and it will provide further insight on location-specific management across soybean cropland of the state.

## Progress

Unfortunately, the primary NCSRP project got a late start in 2021-2022. The delay in getting the survey tools built delayed the farmer recruitment window until late winter – after the meeting season. We attempted to recruit farmers in the spring of 2022, but the delays in soybean planting across much of the state made it extremely difficult to convince farmers to join the on-farm research component of this project.

Therefore, no on-farm research trials were put in place in 2022. No funds were spent from this project. We plan to submit a no-cost extension for this project so that we can carry out this important work in 2023. We have updated and improved our protocols for the coming year. This improved protocol will be included in the no-cost extension request.

Very briefly, we plan to test for 'attainable yield' at each site by selecting the best of the best area in each field, maintain for weeds and insects, and place small replicated plots that include: 1) Control, 2) Unlimited nutrients, or 3) Unlimited nutrients + foliar fungicide at R3.