

October 25, 2019

BOOTS ON THE GROUND SOYBEAN YIELD GAP STUDY

An awesome harvest window continued this past week which moved harvest at a fast pace especially on finishing up our good soybean crop. High yields are always the goal for soybeans, but corn often gets the most attention in terms of management. This year there will be some differences between soybean fields that will be some head scratchers on why the yield variance between certain fields.

In 2019 and 2020, with our UNL on-farm research network, there is a study called “Boots on the Ground: Soybean Yield Gap On-Farm Research.” Past research at the University of Nebraska Agronomy Department by Patricio Grassini reported yield gaps in Nebraska with soybean that should be worked on.

His survey data revealed the following: 1) an average yield gap of 20-30% between current farmer yield and potential yield as determined by climate, soil, and genetics, and 2) a number of agronomic practices that, for a given soil-climate context, can be fine-tuned to close the gap and improve soybean producer profit.

In Nebraska, three practices have been identified as being the most important for improving yield and producer profit. These practices relate to planting date, seeding rate, and the use of foliar fungicides and insecticides. This year, five producers tested out these practices in their own fields in replicated, randomized studies which allows statistical analysis. I helped harvest one of these studies in the Tobias area on October 23rd.

The study compared improved practice versus baseline practice. The baseline practice was a later planting date (June 2) at 160,000 seeds per acre and no foliar insecticide or fungicide application. The improved practice was early planted (May 3) at 130,000 plant population with a foliar fungicide and insecticide application at R3 stage or what is referred to as beginning pod set. Both baseline and improved treatments were the same soybean variety and the same seed treatment.

In the Tobias dryland soybean field, each strip harvested with the 4 replications were 1.3 acres a pass. The improved practice in this study averaged 78.6 bu/acre and the baseline averaged 74.5 bu/acre, a 4.1 bushel difference. I know of another trial harvested last week that indicated a 12 bushel difference.

These studies are a part of 100 on-farm research studies being conducted across Nebraska this year with many different practices being studied. The educational meeting about these studies has been set for February 18, 2020, Holiday Inn Express in Beatrice from 9:00 a.m. to 3:00 p.m. Farm operators and agronomists from across the state are invited to attend the Nebraska On-Farm Research Network research results update meeting at a location near them. Producers will obtain valuable crop production-related information from on-farm research projects conducted on Nebraska farms by Nebraska farmers in partnership with University of Nebraska faculty. These research projects cover products, practices, and new technologies that impact farm productivity and profitability. I am proud of the fact there will be several studies from our area involved this year.



To see past UNL on farm research results go to:
<https://cropwatch.unl.edu/farmresearch/resultshome>

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