

Nebraska Soybean Board
Year-End Summary Research Report Form for Multi-Year Projects

REVIEWED
By Lois Rorhove at 9:13 am, Nov 09, 2022

Please use this form to summarize the practical benefits of your research project and what has been accomplished. Your answers need to convey why the project is important and how the results will impact soybean production.

Note that this form must be submitted with the 4th Quarter Report in all multi-year projects.

Project # and Title: #710-Assessing the Genetic Diversity and Vulnerability of Nebraskan Soybean **Principal Investigator:** Dr. David Hyten

Year of Multi Year: 1 of 3 (example: Year 1 of 3, Year 2 of 2)

1. What was the focus of the research project?

The focus of this project is to create a better understanding of the genetic diversity within the UNL breeding program by sequencing key germplasm from the program. This includes historical lines, germplasm lines, released cultivars, and parents of current breeding lines within the program.

2. What are the major findings of the research?

Year 1 has been focused on resequencing lines from the UNL program. For this first year we have obtained the amount of data needed to genotype and impute all the SNP genetic variation across the genome for all the lines. The major findings will come towards the end of year 2 and in year 3 as we begin our in depth analysis of the genetic variation.

3. Briefly summarize, in lay terms, the impact your findings have had, or will have, on improving the productivity of soybeans in Nebraska and the U.S.

Maintaining genetic diversity within a breeding program is key for long-term genetic improvement of soybean in Nebraska. This project will build the foundation for understanding the genetic diversity present in the current Nebraska germplasm. Genetic gain and yield potential are directly related to the genetic variability present in the population. So our ability to identify novel diversity that can complement the adapted elite background can be used for future improvement to ensure the long-term success of the Nebraska soybean breeding program.

4. Describe how your findings have been (or soon will be) distributed to (a) farmers and (b) public researchers. List specific publications, websites, press releases, etc.

We plan to distribute our findings in public talks, scientific seminars, scientific posters and scientific publications.

5. Did the NE soybean checkoff funding of your project, leverage additional State or Federal funding support? Please list sources and dollars approved.

No

Please submit this completed form to the Agriculture Research Division, jmcmahon10@unl.edu, based on the reporting schedule given to you. If you have any questions, please call Jen McMahon at the Agricultural Research Division (402) 472-7082.

Please check your information before submitting the form.

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