

**Developing Agronomy Leaders with Day Camp, Bowl Contest and Science Projects
Project 07-2021**

Annual Report
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Background and Objectives

Agronomy is a diverse field of study in plant and soil sciences which include external factors such as: entomology, genetics, physiology, biology, and chemistry. Recent trends in undergraduate enrollment show many students prefer to specialize in a specific science rather than a generalist discipline like agronomy. As the number of applied-science agronomists decreases, we face a shortage of individuals with the knowledge to perform field diagnostics, develop overall farm management plans or conduct quality research. As the number of trained field agronomist declines, having access to people that can answer day-to-day questions could become a serious issue.

Objectives:

1. *Conduct an Agronomy Day Camp emphasizing hands-on training for young people.*
2. *Develop a 4-H Agronomy Project.*
3. *Develop a 4-H Agronomy Bowl Contest.*

Report of Progress or Activity

1. *Conduct an Agronomy Day Camp emphasizing hands-on training for young people.*

Agronomy Day Camps were conducted at MS Delta Community College in Moorhead on July 27, 2021, and at North MS Research & Extension Center in Verona on July 29, 2021. Camps were free to attend for youth between 12 and 18 years of age. Camps provide 3 hours of classroom training followed by 3 hours of in-field training. Extension and industry experts provide basic and intermediate level trainings on the following topics: soybean growth, corn growth, cotton growth, water quality/management issues and unmanned aerial vehicle potential use in agriculture.

Twenty-seven youth registered but unfortunately, only 15 youth were able to attend in 2021. Covid-19 was a major factor in lower attendance per parental contacts.

The Day Camp program is an approved 4-H curriculum project across Mississippi. Multiple Extension agents received in-service credit for attending training sessions and 4-H youth have a new STEM related project to select from.

Extension publication P3595 (2020) outlines the overall project is on the MSU ES publication website.

2. *Develop a 4-H Agronomy Project.*

The Agronomy at-home project focused on teaching youth the basics of the scientific method. Soybean is the only plant allowed in the project and helps draw attention to careers in agricultural research and specifically, soybean production. Youth received a project guide to help them envision how to brainstorm and develop ideas for their experiments. Students are required to develop their own research projects. Students received a guide on the scientific method and are provided supplies consisting of soybean seed, pots, soil media, notebook, pot labels, markers, and a weather station. Kits were provided by July 1st however plans are to provide kits in early June in future years. Kits were distributed to 79 youth in 2021. Final reports were judged by 3 agronomists. Scoring matrix was based on A) hypothesis, B) experiment plan, C) data collection, and D) Conclusions. The conclusion aspect still lacks thought from students but will be stressed more in future years. Extension publication P3595 (2020), “*Agronomy Projects for 4-H and Youth*” is available online for agents and others to review to generate more interest. This has been accepted by Mississippi 4-H as a state-wide approved competition and generated significant

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interest within Mississippi and numerous other states. Montana State University intends to duplicate the overall project. Alaska Extension has received additional information from PI.

3. *Develop a 4-H Agronomy Bowl Contest*

Mississippi 4-H held its 1st Annual Youth Agronomy Bowl on June 15, 2021, during the 2021 4-H Club Congress on the MSU campus. It was 1 of only 16 contests offered during the Covid-reduced event. The 4-H Office did not announce the event and contests until mid-May, but we still had 3 county teams practice and enter the competition. Pontotoc County was the winner of the double-elimination tournament. In-service trainings for agents were conducted during 2 events. The Agronomy Bowl competition exposes youth to agronomy and plant sciences in hopes they choose related careers. A list of potential questions was developed from 3 textbook resources, so all participants have equal opportunity to review pertinent material. Extension publication P3596 (2020), “*4-H Agronomy Bowl: Contest Rules and Regulations*” is available to agents and youth.

Impacts and Benefits to Mississippi Soybean Producers

The activities and youth interest in this project have been positive for youth learning. Youth indicated a strong appreciation for the Day Camp, Science Experiments, and the Agronomy Bowl. All three activities have and will continue to highlight the need for trained professionals in the agronomic sciences. Recruiting highly motivated youth into careers dedicated to production agriculture, and specifically soybean research should provide Mississippi producers with a competent group of individuals who will move agriculture forward. This project has the potential to attract the next generation of producers, scientists, Extension agents and industry personnel to keep soybean production in Mississippi healthy and vibrant.

End Products

Agronomy Day Camps

1. MS Delta Community College (Moorhead), July 27, 2022
2. North MS Research & Extension Center (Verona), July 29, 2022

Oral Presentations

1. Burdine, B. Sept 2021. “*Projects to Attract Youth into Ag Careers*”. NACAA Professional Improvement conference. Philadelphia, PA (virtual).

Poster Presentations

1. Burdine, B., C. Stokes, and L. Reed. Sept 2021. “*Drawing Youth to Ag Science Careers*”. NACAA Professional Improvement Conference. Philadelphia, PA (virtual).
2. Burdine, B., C. Stokes, and G. Wills. Oct 2021. “*Developing Future Agronomic Leaders*”. NACAA Western PIC. Grand Junction, CO.

Publications

1. Burdine, B., C. Stokes, G. Wills and L. Reed. 2021. *Agronomy Projects for 4-H and Youth*. Mississippi State University Extension, P3595.
2. Burdine, B., C. Stokes, and G. Wills. 2021. *4-H Agronomy Bowl: Contest Rules and Regulations*. Mississippi State University Extension, P3596.
3. Burdine, B. 2021. *4-H Agronomy Bowl Study Guide*. Unnumbered handout.

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Media Contributions

1. SRIN Developing Tomorrow's Soybean Researchers
<https://soybeanresearchinfo.com/research-highlight/developing-tomorrows-soybean-researchers%ef%bf%bc/>
2. Twitter New youth project highlighting agronomy
3. Twitter MSPB funds youth soybean projects
4. Twitter Agronomy Day Camps
5. Video CJ Weedle recorded video highlighting Agronomy Bowl
6. Video CJ Weedle recorded video highlighting Science Projects

Competitions

1. 4-H Agronomy Bowl
2. Agronomy Science Projects