

MISSISSIPPI SOYBEAN PROMOTION BOARD

Developing Agronomy Leaders with Day Camp, Bowl Contest and Science Projects Project 07-2022 Annual Report

Bill Burdine
bill.burdine@msstate.edu

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 Experiment 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 planned for MS Delta Community College in Moorhead and at North MS Research & Extension Center in Verona for July 2022. Covid restrictions for youth activities and related conflicts. In 2023, I have solicited more support from Extension Agents and plans are underway to resume the Day Camps. Camp topics will include soybean growth, corn growth, cotton growth, water quality/management issues and unmanned aerial vehicle potential use in agriculture.

Day Camp program is an approved 4-H curriculum project across Mississippi.

An Extension publication (P3595 published in 2020) outlines all portions of the project.

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 brainstorm and develop ideas for their experiments. Students received a resource guide on the scientific method and provided supplies consisting of soybean seed, pots, notebook, pot labels, markers, and a weather station. Kits were provided by June 10, 2022. Kits were distributed to 79 youth in 2022. Final reports were judged by a team of agronomists. Scoring matrix used was based on A) hypothesis, B) experiment plan, C) data collection, and D) Conclusions. The conclusion portion of reports lacked thought from participants, but this will be stressed more in 2023. 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 is a Mississippi 4-H state-wide approved competition and generated significant interest within Mississippi and numerous other states. I have been contacted by Montana State University, University of Minnesota, and University of Alaska about the program and how to duplicate it in their respective states.

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

The first-ever Mississippi 4-H Agronomy Bowl was held in June of 2021 during the 4-H Club Congress contests. Unfortunately, the 2022 Club Congress restricted the number of contests offered due to Covid

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restrictions. In-service trainings for agents were conducted before the contests were announced. The Agronomy Bowl competition will expose youth to 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 potential question 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

National Attention

1. Montana State Univ., Univ. of Minnesota, and Univ. of Alaska reached out for more information in attempt to duplicate the project in their respective states.

Day Camps

1. MS Delta Community College (Moorhead) cancelled due to Covid
2. North MS Research & Extension Center (Verona) cancelled due to Covid

Oral Presentations

1. Burdine, B. Sept 2022. “4-H Agronomy Project draws Youth to Ag”. MACAA Professional Improvement Conference. Biloxi, MS.
2. Burdine, B. March 2022. “Overview of 4-H Agronomy Project”. MSU Extension In-Service Training. Zoom.

Poster Presentations

1. Burdine, B., G. Wills, L. Reed, and J. Shannon. Feb 2022. “*Drawing Youth to Ag Science Careers*”. NMREC Producer Advisory Meeting. Verona, MS.

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.

Media Contributions

1. Twitter Youth project highlights agronomy
2. Twitter MSPB funds youth soybean projects

Competitions

1. 4-H Agronomy Bowl cancelled due to Covid
2. Agronomy Science Projects 79 youth participating