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| Project Number: | 1920-152-0102 |
| Project Title: | National USDA Uniform Soybean Tests / Yield, Disease Resistance and Quality Traits Evaluation of Public Breeding Lines (Year 2 of 3) |
| Organization: | USDA-ARS |
| Principal Investigator Name: | Anne M. Gillen |
| **National Soybean Checkoff Research Database** [**https://www.soybeanresearchdata.com/**](https://www.soybeanresearchdata.com/) **(visible to public)**  **Please choose one option (if no option is selected, this report will be posted to the website):**  I agree to allow the information contained in this report to be published in its entirety.  I have included, at the end of this report, a brief non-technical report that can be posted to the website.  I DO NOT agree to allow the information contained in this report to be published. | |
| Project Status - What key activities were undertaken and what were the key accomplishments during the life of this project? Please use this field to clearly and concisely report on project progress. The information included should reflect quantifiable results (expand upon the KPIs) that can be used to evaluate and measure project success. Technical reports, no longer than 4 pages, may be included in this section. | |
| Southern Test   1. All data from the 2018 trials and stem canker nursery at Stoneville were submitted in a timely fashion. 2. 2018 Seed samples for analysis from Stoneville trials were submitted on time. 3. The SAS programs and Excel files used to report the results were revised in January-March 2019 to include new seed composition tables in the Uniform Tests, and the addition of Estimated Meal Protein % to the Uniform and Preliminary Test results. 4. Drafts of Excel formatted analyzed data were sent in several parts due to late arrival of data due to the government shut down, and a lost trial was found at a late date which required a new analysis. The first drafts of the Uniform Agronomic tables were sent February 2, 2019, as compared to Jan 12 in 2018. Final updates to the analysis were sent on March 13, 2019. 5. Due to the furlough of federal workers, the protein and oil data for the 2018 northern and southern trials was late. The data was analyzed as soon as it was available and distributed promptly. 6. The Annual Meeting of the Southern Test was held at Soybean Breeder’s Workshop on February 12, 2019. 7. The final 2018 Annual Report and Excel formatted Tables were distributed to collaborators, participants, private breeders on June 3, 2019 and the hard copy was mailed on June 6, 2019. Due to the furlough of government worker’s the formatting and production of the final annual report was delayed so that seed could be prepared for planting. 8. Pedigree information from the 2018 tests was sent to Rex Nelson at Soybase.org for inclusion in the Soybean Parentage Database. 9. All 2019 seed was distributed on time and the trials were planted. 10. Seven tests were planted at Stoneville in April 2019, but they were lost due to flooding. 11. We are waiting for 2019 data from collaborators. Datasheets are being prepared and seed is being sent for analysis. 12. Stem canker testing at Stoneville, MS in 2019 was completed and final results are being prepared.   Northern Test   1. All data from the 2018 trials in Indiana locations and Phytophthora root rot screening were submitted in a timely fashion. 2. 2018 seed samples for composition analysis from Indiana trials were submitted on time. 3. In anticipation of coming furlough of federal workers, preliminary analysis of available data was distributed to participants on Dec. 19, 2018. 4. Excel format of analyzed data was distributed to participants on Jan. 30, 2019 in preparation for the annual coordination meeting. 5. The annual coordination meeting of the Northern Test was held at Soybean Breeder’s Workshop on February 12, 2019. 6. Due to the furlough of federal workers, the protein and oil data for the 2018 test was late. The data was analyzed as soon as it was available and distributed promptly. 7. The final PDF version of 2018 Annual Report was distributed to collaborators, participants, private breeders on April 10, 2019, followed with hard copies. Due to the furlough of government workers, the formatting and production of the final annual report was delayed so that the planning for 2019 test could be completed on time. Pedigree information from the 2018 tests was sent to Rex Nelson at Soybase.org for inclusion in the Soybean Parentage Database. 8. All 2019 seeds were distributed on time and the trials were planted. 9. We are in the midst of harvesting 2019 trials at Indiana locations. 10. We are waiting for 2019 data from collaborators. Data submission sheets were prepared and distributed to participants. 11. Phytophthora root rot screening at West Lafayette in 2019 is 95% completed. | |
| Did this project meet the intended Key Performance Indicators (KPIs)? List each KPI and describe progress made (or not made) toward addressing it, including metrics where appropriate. | |
| Continued participation in the testing program by public breeders indicates the value and utility of the testing program. In the 2018 Southern Test there were 15 soybean breeders who participated by growing tests and/or entering lines. These soybean breeders and collaborators are located in eleven states and represent three ARS locations and nine Universities.  In the 2018 Northern Test there were 18 soybean breeders who participated by growing tests with additional breeders entering lines. These soybean breeders and collaborators are located in ten states, two Canadian provinces and represent one ARS location, eleven Universities and three Canadian research organizations.  Our two KPI were met by:   1. Producing and distributing preliminary data to participants early enough to be used to make soybean line selections for the next growing season. 2. Producing and distributing the annual reports to public researchers, seed company scientists, the National Agriculture Library, the University of Arkansas Library (Southern Test only) and Purdue University Library (Northern Test only). 3. The annual reports of both tests are available to the public online at ARS websites. 4. Soybase.org has links to the annual reports of both tests. Data.gov has a link to the annual report of the Southern Test. | |
| Expected Outputs/Deliverables - List each deliverable identified in the project, indicate whether or not it was supplied and if not supplied, please provide an explanation as to why. | |
| 1. Preliminary data from 2018 trials was distributed to collaborators and participants prior to the annual meeting. 2. The Annual Meeting of the Northern Test and the Southern Test were held in conjunction with the Soybean Breeders Workshop in St. Louis MO in February 2019. 3. The 2018 Annual Reports for both tests were produced and delivered to the breeders. 4. The final formatted reports in hard copy and pdf version were not completed on schedule due the furlough of government workers. The final formatted reports were completed and distributed as soon as was practical. 5. 2018 Trials at Stoneville were planted but lost due to flooding. All Northern Test plots in Indiana will be harvested on time. The data will be submitted for the annual report in a timely fashion. 6. Stem canker screening was successfully completed and Phytopthora root rot screening is on schedule in 2019. The data will be submitted for the annual reports in a timely fashion. | |
| Describe any unforeseen events or circumstances that may have affected project timeline, costs, or deliverables (if applicable.) | | |
| Due to the shut-down of the federal government the protein and oil analysis was performed by a federal lab, therefor that data was not obtained in a timely fashion. This delayed portions of the statistical analysis, and delayed producing the final formatted report. Despite the shut-down, the preliminary agronomic data was processed, analyzed and distributed prior to the annual meeting, as we normally do. The shutdown also affected the copying and binding of the annual reports. It was necessary to distribute and plant the 2019 trials before the final formatted reports could be prepared. | | |
| What, if any, follow-up steps are required to capture benefits for all US soybean farmers?Describe in a few sentences how the results of this project will be or should be used. | | |
| The breeders utilize these results to make critical decisions regarding the advancement of lines and varieties towards release for commercial use. The data from these trials are used to justify releases. The 2019 data needs to be analyzed and reported. | | |
| **List any relevant performance metrics not captured in KPI’s.** | | |
| Pedigree information for the entries in the tests was sent to Rex Nelson at Soybase.org for inclusion in the Soybean Parentage Database. This database is an ongoing project which makes pedigree information available online to everyone. It is very helpful for writing release notices and registration articles. | | |
| **Non-technical report (this information will be posted to website in place of above report):** | | |
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