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| Please use this form to clearly and concisely report on project progress. The information included should reflect quantifiable results that can be used to evaluate and measure project success. Comments should be limited to the designated boxes. Technical reports, no longer than 4 pages, may be attached to this summary report. |
| Project Number:  |  |
| Project Title:  | Enhancing Stink Bug Resistance in Midsouth Soybean |
| Organization:  | LSU AgCenter |
| Project Lead Name: | Jeffrey A. Davis |
| Report Date: | September 15, 2023 |
| **In the Progress Summary section below, please provide a brief summary of project progress in lay language that will be shared publicly in the** [**National Soybean Checkoff Research Database**](https://www.soybeanresearchdata.com/)**. Do not include any confidential or proprietary information. If no lay language is provided, the contents of this entire report will be published in the** [**National Soybean Checkoff Research Database**](https://www.soybeanresearchdata.com/)**.** |
| Progress Summary (in non-proprietary lay language suitable to be shared publicly): |
| Field studies are ending as we harvest. Seed is being threshed and evaluated for yield and stink bug damage. Current crosses are on-going and new populations have been made. Laboratory life table studies are continuing until we run out of pods.  |
| Detailed Progress Status – Expand upon the above section. What key activities were undertaken and what were the key accomplishments during this reporting period? List each key deliverable from the proposal and describe progress made (or not made) toward achieving it, including metrics were appropriate. |
| LSU AgCenter: Life table studies following 26 MGIV commercial soybean varieties are ongoing. In field evaluations via sweep nets and oviposition studies have ended. We are harvesting plots and evaluating seed for yield and damage. University of Missouri: There are 15 early IV to late group IV lines from stink bug related crosses in University of Missouri yield tests. They will be evaluated for yield and other agronomic traits as well as stink bug damage. Best performing lines will be entered into advanced yield tests and will be screened for tolerance to stink bug damage.Five crosses were made in 2023 for improving stink bug resistance. Three crosses were made to develop improved varieties by crossing lines with stink bug tolerance with elite soybean lines with high yield potential, desirable agronomic traits, and disease resistance. Two crosses were designed to transfer stink bug resistance from exotic plant introductions into elite soybean lines and to genetically map stink bug resistance genes. The crosses which were attempted are listed in the table below:

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| **Cross number** | **Pedigree** | **Purpose** |
| S23-514 | S21- 21984 x S18-6328 | Cultivar development |
| S23-515 | S21-22147 x PI 097139 | Cultivar development and gene mapping |
| S23-516 | S21-22147 x PI 85665 | Cultivar development and gene mapping |
| S23-517 | S16-7922 x S21-21942 | Cultivar development |
| S23-518 | S16-9478 x S21-21942 | Cultivar development |

An update on the project progress was given at the summer MSSB board meeting.  |