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| Project Number: | 1720-172-0124 |
| Project Title: | Enhanced Pest Control Systems for Mid-South Soybean Production |
| Organization: | LSU AgCenter |
| Principal Investigator Name: | Trey Price |
| Report Period: | 3rd Quarter 2017 |
| Project Status: Active | |
| **Louisiana**  **Price: The** 30 entry-variety trials at St. Joseph and Alexandria have been rated once for CLB. Disease pressure is moderate. The first 153 entries of the 500 PI screening in Alexandria have been rated for CLB. Other diseases present include frogeye leaf spot, aerial blight, and a hodgepodge of bacterial diseases making ratings difficult. The remainder of the entries are not yet displaying symptoms due to maturity. **Hollier:** Due to environmental issues, the Baton Rouge location of this project was planted late. Therefore even though growth of the 30 varieties/introductions has been stressed with additional rains, growth continues with disease development. Disease ratings are still being taken. **Davis: LENGTHY REPORT ATTACHED. Buckley:** No report received.  **Alabama Sikora:** The 30-entry variety trial will be established in Fairhope during early June.  **Arkansas Orazaly:** Based on the preliminary one year petiole severity data from LA and MS, we found regions on chromosomes 12 and 18 that had SNPs associated with the trait. Although it is preliminary results, it is worth noting that PSS resistance gene, *Rpss1,* is located on chromosome 18 (Jackson et al., 2008). New cross combinations were made to integrate CLB resistance to our high-yielding lines. For this purpose, our high-yielding CLB resistant varieties, UA 5014C and UA 4805, were crossed with high-yielding AR and MO lines. To develop mapping populations for QTL studies, two new crosses were made combining CLB susceptible variety, UA 5615C, with CLB resistant varieties, UA 5014C and UA 4805. True hybrid seeds were harvested in fall. F1 hybrid seeds were planted in Fayetteville, AR and the presence of morphological markers are checked to identify true hybrid. **Faske:** The majority of the soybeans range in maturity from R4 to R6. As a casual observation, there was some CLB and stem canker starting to develop in a few plots as of 6 Sept (Fig. 1). Plots will continue to be monitored and rated for CLB, stem canker, and other diseases over the next few weeks. Overall, CLB symptoms are none to very low for this study. **Spurlock:** *Cercospora kikuchii* incidence and severity assessments were made 21 Aug. Incidence ranged from 0.75-51.25% with statistical differences and severity ranged from 0.8-15.8% without statistical differences. Leaf curling and *C. kikuchii* severity assessments were taken 5 Sep. Leaf curling ranged from 10-30% and severity ranged from 3-18% with no statistical differences in either assessment. The third assessment is scheduled for 19 Sep, and samples will be collected at harvest for purple seed stain assessments.  **Mississippi Allen:** Ratings for disease have not been initiated as soybean plants had no reached the proper growth stages. Single row lines (500) were planted to address the susceptibility of the lines to Cercospora blight. Trials at all locations are just now reaching the appropriate growth stages for the purposes of rating. The first rating in Verona should be next week weather permitting.  **Missouri Chen**: We are growing the 30-entry-3 rep cooperative test to visually assess for CLB symptoms. The entries are currently at the R5 to R6 growth stage. Due to a relatively late planting, we have not observed any symptoms of CLB at this point. We will continue to monitor the trial throughout the remainder of the season. We will also note of any other diseases that show presence in this trial, particularly Frogeye Leaf Spot. The 500 PI trial is also being monitored.  **Tennessee Kelly:** The 30-entry trial has been planted and will be evaluated in the next week or so. | |