

3rd Quarterly Report

General Information

Principal Investigator(s) Name(s):

David Gunter, Extension Feed Grain Specialist

Organization:

Clemson University

Date:

9/26/2019

Quarter:

Second

Proposal Information

Title:

Varietal Comparison of Drought Tolerance in Soybeans Grown in SC

Amount Expended to Date:

\$4247

Progress Assessment

Finally on June 14th there was enough moisture at Sandhill REC to plant the trial. Pretty late for MG 5 beans, but as we have seen it just hasn't rained when we needed it this year. Five days later the Sandhill REC got another good rain to activate the pre-emerge chemistry and get the beans out of the ground. Weeks later I got a call from the Cody Bishop, the Farm Manager, and he said that some of the beans were dieing. I went and investigated just a couple days later and found something I haven't seen in over ten years. I found that lesser corn stalk borer had girdled or tunneling through the stem, causing the plant to die or break over at the soil surface. This trial was conventionally tilled prior to planting and that along with dry conditions and sandy soils is the perfect storm for a lesser outbreak. Again not seeing it in so long it really surprised me and then I had a farm call near Kitchen Mill where oat straw was burned and planted into the remaining stubble and lesser attacked a couple fields as well. So after not seeing it for so long, it kind of makes sense because we have gone so heavy into reduced tillage, which has kept the pest away until we have a really dry year and sandy, dry soils. Hopefully with 3 replications of each variety we will still have enough to harvest and have some data for the soybean growers across the state.

I looked at the 2 more times and the lesser problem got worse as well as the drought on the trial. It was evident that the trial with as much stand loss that was evident would not be a trial to give any meaningful data.

Key Performance Indicators

This trial will give a grower more of an evaluation of how these varieities will perform under dry conditions. Ratings have been taken to observe how the varieties withstand dry spells and which varieities will even grow under adverse conditions. There was no varietal connection to the lesser problem. It was more of a soil type and amount of cover to the sandy soil. Finally, yields will be taken at harvest and ratings can be observed on things such as lodging and seed

shatter. I don't think a later planting will hurt the results. As long as we can get a stand, everything afterward will be compared within the maturity groups, top yields aren't needed, but comparisons can be made within each maturity group.

Again no data will be taken from this trial as the drought and lesser cornstalk borer really destroyed it.

Next Steps

The next step is to go and observe the trial after this unprecedented amount of dry heat for September. Even with the later planting date the MG 5 varieties should be starting to turn and lose some leaves.

The next step is to forget it, turn in the reports.

Additional Information

Weeds and insects have been sprayed so all that is left is some final evaluations and harvest. Only thing to do is look forward to a new trial in 2020.

Prior to submission, reports should be saved as a pdf document using the following naming convention; 2018Date(yrmoday)_(PI Last Name)_(Abbreviated Proposal Title)_Qtr1.