

**Develop a definitive, objective test of maturity as well as non-destructive, remote tests of seed maturity**

The object of this research is to develop biochemical and physiological tests of maturity, a host of lipid and carbohydrate profiles of seed from different maturity levels will be run. Serial harvests (120, 130, and 140 DAP) were carried out in Jay, FL on experimental plots in a randomized complete block design in 2016. Pods were collected from four cultivars (FloRun 107, TUFRunner 511, TUFRunner 297, GA-06G) and are being assessed for seed calcium and boron content, number of immature pods, and seed dry weight. These seed are now being tested for germination vigor response evaluating on a thermal-gradient table. Additionally, these different maturity level seed are also being test by JBL in Albany for lipid and carbohydrate profiles. Once all data is collected, then correlation analysis will be conducted to establish if these data relate to generational information generational in subsequent field experiments in 2017.