

Using Remote Sensing to Predict Peanut Pod Maturity

J.B. WHITTENTON*, B.A. ZURWELLER, A.A. FOX, J. GORE, D. DYGERT, J. MAY, Plant and Soil Sciences Department, Mississippi State University, Starkville, MS, 39762.

The standard method of measuring peanut pod maturity is removing the exocarp and sorting the pods based on mesocarp color onto a maturity profile board. Growing Degree Days (GDD) are accurate in predicting digging dates. However, the relationship of GDD with peanut pod color progression over time is unclear. Additionally, late-season daily temperatures impacting peanut maturity may be different at latitudes further north than the Lower Coastal Plain, where the peanut profile board was developed. There has also been no established method of estimating peanut pod maturity through remotely sensed methods that could predict peanut maturity. Therefore, these studies' overall objectives are 1) evaluate peanut pod color progression using the maturity profile board and GDD models; 2) evaluate the relationship between peanut canopy reflectance and pod maturity. Remote sensing imagery was collected before each digging timing. It is expected harvest timing prediction tools may need to be adjusted for climate and cultivar differences. The ability to assess whole field maturity using remote sensing may optimize harvest timing for improving seed quality and yield.