

ESTABLISHMENT OF A LONG-TERM SUSTAINABILITY PROGRAM FOR PEANUT PRODUCTION IN GEORGIA UTILIZING THE FIELD TO MARKET FIELDPRINT CALCULATOR

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Many sectors across the agricultural industry have developed sustainability goals as a way to meet consumer demands for sustainably sourced food and fiber products. With partnerships between the University of Georgia (UGA), Georgia Peanut Commission, and Cotton Incorporated a sustainability project was created to quantify and evaluate sustainability goals using the Field to Market Fieldprint Calculator. The main objective of this on-going research is to evaluate sustainability practices in peanut production in Georgia and how they vary from year-to-year.

UGA Extension Agents in the Southwest and Southeast districts in Georgia were contacted to collect data in their respective counties. There are currently 45 growers across 27 different counties whom are actively participating in

this research. Yearly grower meetings consist of an hour-long interview to collect peanut field management information from the previous crop year. To provide an accurate representation of the grower's total peanut crop, management practices are collected on a field that represents 10% of the grower's total peanut acres. The questions asked were based on the Field to Market Fieldprint Calculator questionnaire. Once the in-person interviews are complete, the data is then entered into the Calculator database where

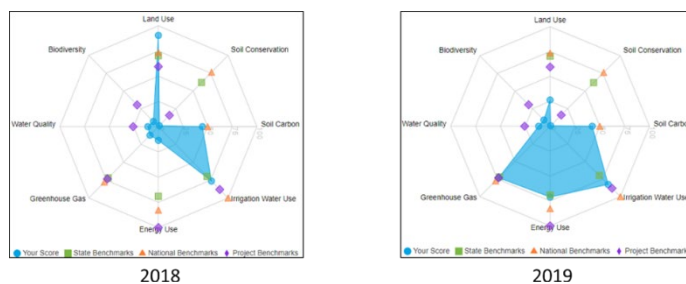


Figure 1. Spidergram comparison between a field in 2018 to 2019.

data analysis was conducted. This tool calculates the field information and provides sustainability scores based on eight different sustainability metrics. These metrics include: land use, soil conservation, soil carbon, irrigation water use, energy use, greenhouse gas emissions, water quality, and biodiversity. The Fieldprint Calculator presents the eight sustainability metrics in a spidergram where the grower results are shown.

In the yearly meetings, participants are provided with annual grower report which provides the results from the fields collected in previous years by comparing the spidergrams side-by-side. Providing spidergram comparisons can allow growers to evaluate their records to see what management practices might have differed or see if there were any major weather events which could have skewed the results. Growers are also given definitions for the eight metrics with management practices that can improve the score. Though there are a multitude of different management practices, several metrics share the same management practices. Therefore, if one management practice is implemented, multiple scores have the ability to improve simultaneously. For example, implementing cover crops is a management practice that correlates with the soil conservation, soil carbon, irrigation water use, water quality, and biodiversity metrics. Therefore, if cover crops were implemented in a system, the scores for all five metrics could improve.

Data from 2017 through 2020 was analyzed for trends across the eight metrics. Of the eight, energy use and greenhouse gas emissions were two metrics which could be improved. Application of fertilizers and crop protectants was the largest contributor to these metrics. Providing growers with information on Integrated Pest Management (IPM) strategies through site-specific techniques, like the use of spatial sampling using global positioning systems (GPS) and geographic information systems (GIS), could help growers improve both of these scores simultaneously.

As we continue this research, five or more new peanut growers will be added with each new year of the study. Data collection will continue in 2022 to collect 2021 peanut crop information. With multiple years of data, we will continue to evaluate current peanut sustainability data for trends. This information will then be provided to the growers in the in-person interviews and to Extension Agents at their regional trainings so that it can be utilized to improve their sustainability scores through improvements in production practices.