CONTINUANCE OF A LONG TERM PEANUT SUSTAINABILITY PROGRAM IN GEORGIA UTILIZING THE FIELD TO MARKET FIELD PRINT CALCULATOR 2022

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The Fieldprint Calculator, created by Field to Market: The Alliance for Sustainable agriculture, is a tool used to estimate field level performance through eight indicators of sustainability: soil conservation, energy use, land use, soil carbon, greenhouse gas emissions, water quality, biodiversity, and irrigation water use. The calculator is confidential and located on the Field to Market® website for producers of major commodity crops to utilize at no cost. The operation of the typical calculator is as follows: Growers are presented with a series of questions about their management practices for a field and are provided with feedback in the form of an index on their environmental impact and efficiency – the smaller the value of the index, the more sustainable and efficient the practice. Based on this feedback growers can compare their management practices to those of national, state, and local averages presented as a spidergram. The farm Fieldprint allows the producers to understand in what areas they are outperforming other peanut producers and in what areas they could improve their performance. Within the Fieldprint Calculator, researchers can simulate potential crop production scenarios and how they affect sustainability metric scores. Data were collected from 2017-2021. During each year approximately 1600 acres of peanut production were represented. During each meeting 1 to 1.5 hours of time were spent with each producer to provide them with an annual grower update that covered their past years data and metrics and allowed them to complete a new Field Print Calculator Survey. Shown in figures one and two, are the results from the Greenhouse Gas Emissions and the Energy Usage metrics. It should be noted that the values represented in the graphs are not the field print scores, but the actual amount of GHG emissions and the energy usage for the farms. A few different results can be observed in these example data sets. 2019 had a higher GHG and energy usage than the other years. A majority of this can be attributed to the usage of irrigation, but other things such a pesticide sprays also attribute to these factors. A sensitivity analysis was performed on these data sets that included scenarios such as incorporating advanced irrigation scheduling.

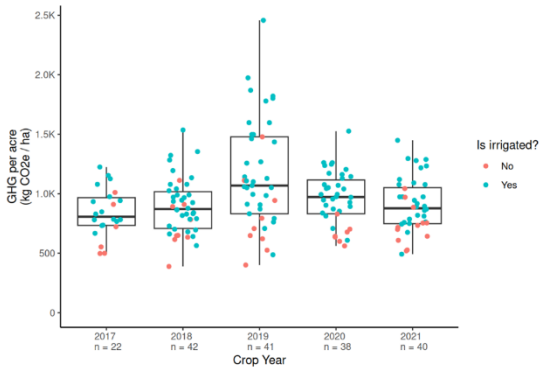

Figure 1. Greenhouse gas emissions grouped by year and separated by rainfed and irrigated.

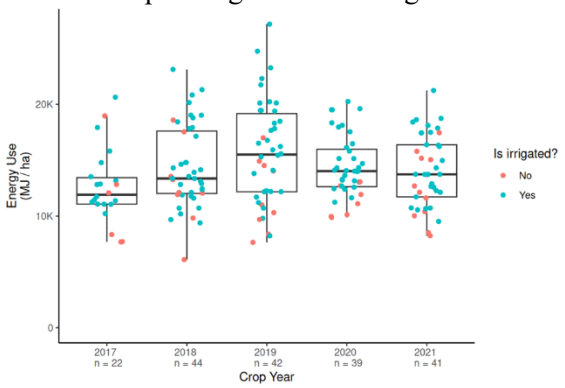

Figure 2. Energy Usage grouped by year and separated by rainfed and irrigated.

The conclusions from the sensitivity analysis are be compiled in a peer reviewed journal article and Extension publications. Our goal is to share information on peanut sustainability to other researchers and peanut growers as sustainability is at the forefront of the agricultural supply chain. As we begin to establish baseline sustainability metrics and run various sensitivity analyses, an economic analysis will be conducted to show how sustainable management practices can influence on-farm economies.