**SCSB Final Report**

**General Information**

**Principal Investigator(s) Name(s):** Ben Fallen
**Organization:** Clemson University

**Date:** 01/02/20

**Quarter:** Final

**Proposal Information**

**Title:** Evaluating and Improving Feed Value of SC Soybean

**Amount Expended to Date:** 100%

**Project Summary**

The purpose of the project was to address two primary concerns: 1) How much higher is the protein content in soybeans produced in SC, compared to soybeans produced in the mid-western and northern US? and 2) What value does this higher protein content add to soybeans produced in SC? In order to accomplish these objectives four different soybean meal samples were used to produce four different dietary treatments, that were used for a 16-day broiler feeding trial. The dietary treatments consisted of 1. A conventional soybean meal from the Midwest, 2. A conventional soybean from the Midwest but processed into soybean meal at TAMU, 3. Iso-line A from SC and 4. Iso-line B from SC, both processed at TAMU. The term Iso-line was used to differentiate between two soybean breeding lines developed at Clemson University, that differ only in their protein content. Iso-line A had a protein content of 48% and Iso-line B had a protein content of 43%. The 5% difference in protein content is representative of the difference in protein content between soybeans produced in SC compared to the Midwest. Soybean samples were processed at Texas A&M University (TAMU) and the feeding trial was conducted at Kansas State University. At the end of the feeding trial fecal samples were collected for GE analysis and ileal samples were collected and pooled per cage for analysis of crude protein and AA.

**Key Performance Indicators**

The feeding trial has been completed, all samples have been collected and sent off for lab work as of January 02, 2020. So, everything has been successfully completed, except laboratory and data analysis. We hope to have this complete soon and will provide an update once complete. An equipment breakdown early on caused a delay in the timeline.

**Additional Information**

This is one of the first feeding trials evaluating the benefits of increased meal protein in soybean. This information could benefit growers not only in SC, but throughout the US. This study has also brought to light some other key traits that may be of interest when increasing meal protein in soybean. Based on some of the results we observed in this study some new key traits that we plan to explore in the future are residual oil content, protein dispersibility index, urease, crude fiber and ash.