

**PROGRESS REPORT  
TO  
CORN GROWERS ASSOCIATION OF NORTH CAROLINA**

**TITLE:** North Carolina Corn Basis Fundamentals

**LEADER(S):** Nicholas Piggott and Heidi Schweizer

**DEPARTMENT(S):** Agricultural and Resource Economics

**REPORT:**

The outputs are an online tool, a comprehensive report made available online, extension presentations on the research material, and a Ph.D. dissertation chapter.

In addition to the PIs, multiple staff and students contributed. Rob Ladd of Extension IT was the developer of the online tool, and Margaret Huffman, ARE Communication Coordinator, contributed to tool design and content. There were each a Ph.D., master's, and undergraduate student contributors; these, in order, were Robert Thompson, Yasin Yildirim, and Ashling Murphy.

Research highlights are below. A comprehensive report with details can be found here:

<https://cals.ncsu.edu/are-extension/crops-marketing-and-logistics/grain-marketing/corn-growers-final-report/>

- (1) Creating and analyzing a database of historical corn prices and basis for different NC locations
  - Historical corn bids reported by USDA gathered and saved in an accessible and updateable format
    - Currently consists of 89,730 data points
  - Econometric tests show that NC corn prices vary by both region and season
    - The basis carry has direct implications for varying returns to storage based on the NC region
- (2) Establishing information on the source and timing of flows of feedstuffs into NC
  - 6 data sources used to look at truck, rail, and boat shipments of feedstuffs to and within NC
    - From 2002 to 2017 some NC counties have switched from being feed deficit to feed surplus
    - NC's feed deficit is largely met with feedstuffs from MI, OH, and IN
    - Even in years with the highest international import volumes, ocean imports accounted for less than 5% of total energy feed needs

## IMPACT STATEMENT

The data compiled and cleaned into a useful time series for analysis throughout the course of this project will continue to be used and analyzed in research and extension-related projects. This unique and substantial database provides a foundation to explore important research questions on historical prices and the basis in this future. This might include peer-reviewed journal articles and Ph.D. dissertations.

The measurable outcomes currently available are listed below.

### Online tool

The online price and basis tool metrics are:

- 697 unique users over the period Nov 1, 2019, and Dec 5, 2021
- 1,187 sessions that visited an average of 6.4 pages for a total of 7,590 page views
- Sessions average almost 4 minutes

### Extension Agent Training

Introduction to Grains & Oilseed Marketing at the ARE Agent Educational Series on November 13, 2020

Insights into Basis and Movement of Corn in NC at the State Extension Conference on October 26, 2021 [41 agents attended]

### Extension Workshop

The tool and the charts it creates are routinely used in Piggott's extension program when addressing marketing issues during workshops. Over the duration of this project, Piggott estimates that he has used this information in at least 30 workshops since 2019 to NC corn, soybean, and wheat growers.

### Robert Thompson's Dissertation Research

Robert Thompson is now officially Dr. Robert Thompson after filing his dissertation in November 2021. His second chapter is on NC corn markets and basis forecasting using the data collected as part of this project. Robert's dissertation won the ARE department Carlson Award.