

NC STATE ECONOMIST

Specialty Crops in 2020: COVID-19 and Other Challenges

By **Daniel Tregeagle, PhD**, Assistant Professor, Department of Agricultural and Resource Economics

The specialty crop sector has been consistently growing over the last decade. However, the COVID-19 pandemic has presented unique challenges to the industry that threaten its continued growth, while at the same time prompting a positive trend in consumer preferences for direct farm specialty crop purchases. This article provides a snapshot of the specialty crop industry pre-pandemic and then summarizes several of the key issues challenges and changes that COVID-19 has brought. The information about the pandemic's effects was gathered from the recent agricultural economics literature as well as a survey of U.S. and Canadian raspberry and blackberry growers I conducted in Summer 2020.

The survey, conducted in collaboration with the North American Raspberry and Blackberry Association (NARBA), focused on caneberry production, which includes raspberries, blackberries and similar berries such as marionberries. We received 155 useable responses from across the US and several from Canada. The southeast region provided 19% of responses, the second most responses after the Midwest region. The main objective of the survey was to collect grower prices by marketing method, but we also asked growers how COVID-19 has affected them.¹

Specialty Crop Overview

Across the US, specialty crop production was valued at \$48.2 billion in 2017, which is 12.4% of the agricultural total. To produce these crops, 184,000 farms used 10.4 million acres of land (United States Department of Agriculture (USDA) 2019). The term 'specialty crops' is a USDA term used to describe fruits and vegetables, tree nuts, dried fruits, and horticulture and nursery crops (including floriculture).



As a rule of thumb, you can think of them as crops for which you could not buy futures at the Chicago Board of Trade. In North Carolina, 7,470 farms grow specialty crops on 280,963 acres, producing crops valued at \$2 billion. Although specialty crops includes horticulture and nursery crops, the focus of this article will be on food crops.

The top U.S. fruit and nut crops are almond, grape, citrus, apple and strawberry. The top vegetable crops are potato, lettuce, tomato, onion, and broccoli. Nationally, California leads the production of fruits and vegetables. Though North Carolina is not a top-10 producer of fruit, it ranks seventh in the country for vegetable production, and is the third biggest vegetable producer in the South, behind Florida and Georgia. Fortunately, North Carolina’s top crops – sweet potatoes, blueberries, cucumbers, melon, pepper, and squash – do not compete with the the nation’s top crops. North Carolina leads the country in sweet potato production, producing around 60% of the nation’s crop.

Production Trends

Over the last decade, the value of production for most crops has been declining or stagnant. Specialty crops have been an exception, with the value of vegetable and melon production growing at 0.9% per year and fruit and nut production growing more rapidly at 1.7%.² Figure 1 shows these trends.

The USDA predicts the specialty crop sector will grow rapidly over the next decade with an annual growth rate of 2.6%, substantially faster than the expected US GDP annual growth 1.8%.³ The COVID-19 pandemic has had, and will continue to have, major impacts on the agricultural sector. The USDA developed these projections before the onset of the pandemic. While the long-term impacts of the pandemic on the specialty crop sector are still unknown, these projections indicate that the foundation of the US specialty crop industry was strong before the crisis started.

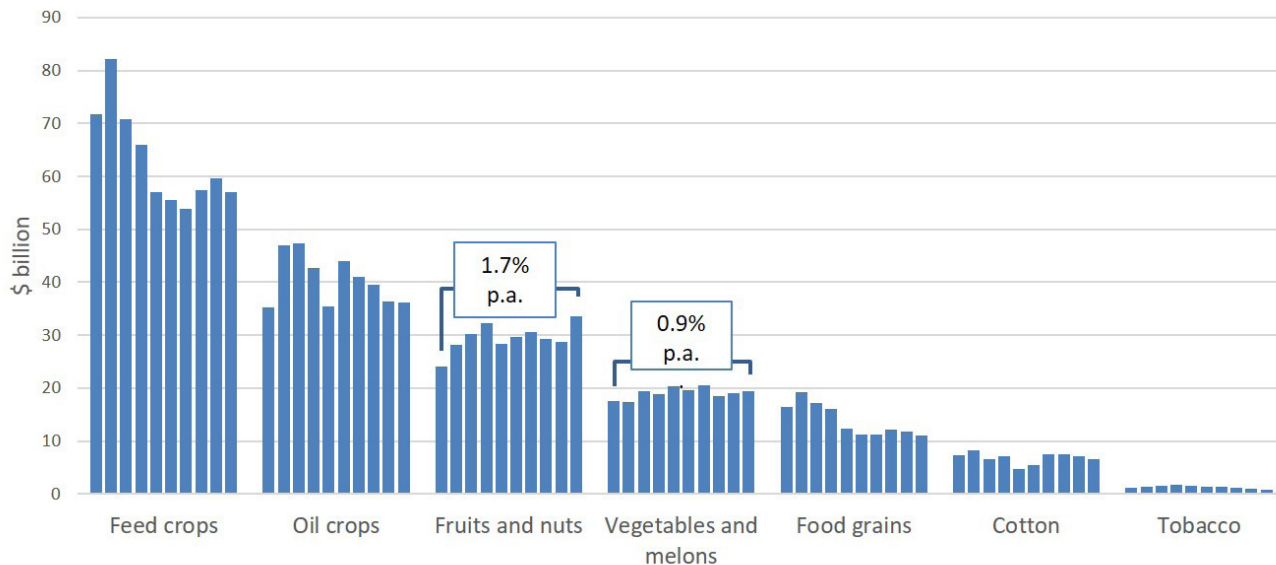


Figure 1: Value of US crop production, 2010-19

Consumer Trends

Consumer spending on fresh fruits and vegetables is increasing faster than the value of production. Spending on fresh fruits and vegetables is increasing at 3.5% and 4.5% per year, respectively. Spending on processed produce is growing more slowly, at 1.5% for fruits and 3.5% for vegetables. (See Figure 2)

Despite the growth in production and expenditures, fruit and vegetable availability (a proxy for consumption, measured by the sum of domestic production and imports, minus exports) is growing below the rate of expenditure for fruits and is shrinking for vegetables. Fresh fruit availability is growing at 0.5% per year and frozen fruit availability is growing at 0.7% per year, although from a base around ten times lower than fresh fruit. Fresh vegetable availability has been shrinking by 0.3% per year and frozen availability shrunk faster at 0.8% per year. The availability of processed fruits, canned and juiced, shrank rapidly, with canned fruit availability shrinking at 1.9% per year and juice availability shrinking at 2.6% per year. The reduction in fruit juice availability was most remarkable, shrinking from 120 lbs/capita in 2000 to 80 lbs/capita in 2019. Canned vegetable availability shrank at 0.9% per year

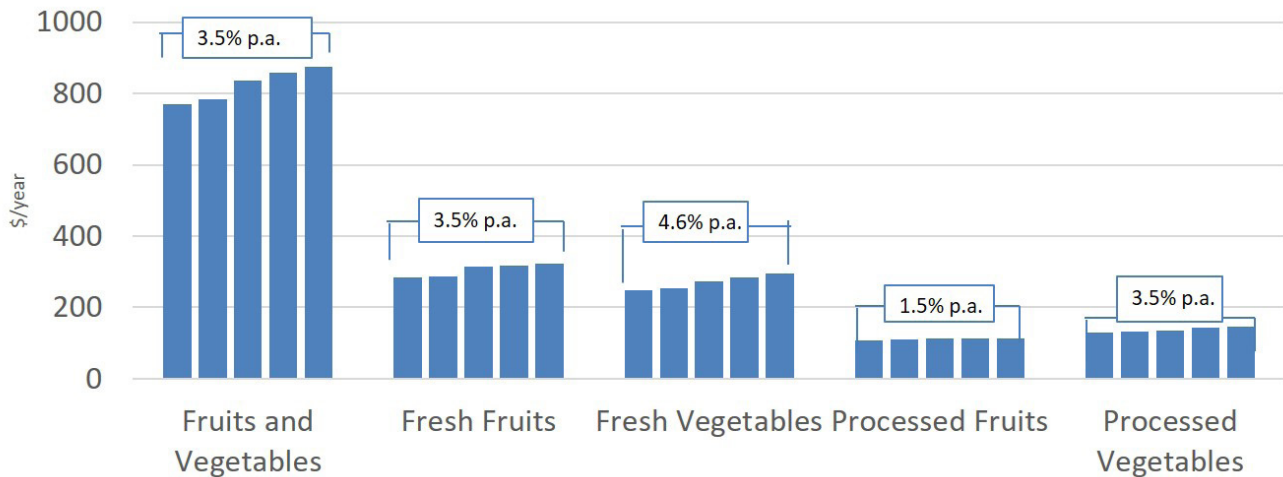


Figure 2: US consumer expenditures on fruit and vegetables, 2015-19

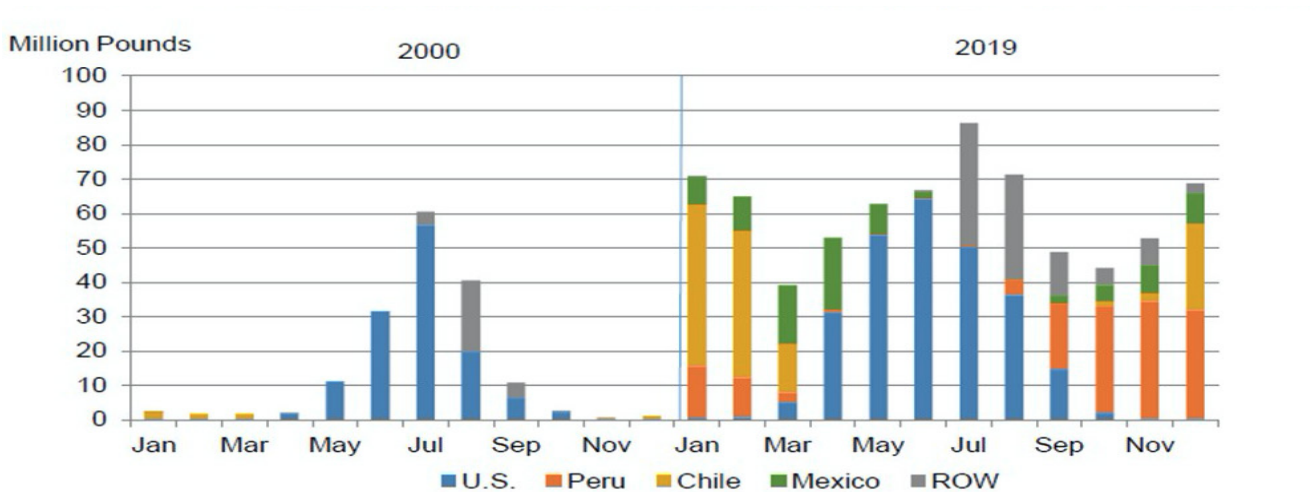
The Impact of Trade on Domestic Production

Although North Carolina's top crops are not competing against the major domestic specialty crop producing states, they do compete with imported goods. The U.S.'s top fruit import category in 2019 was berries, importing almost \$3 billion. The top three vegetable imports were tomatoes, peppers, and cucumbers.

The importation of specialty crops is an unambiguous boon for domestic consumers, increasing the availability of produce year-round while driving down retail prices. For producers, the effect may be negative. Imports may compete with domestic supply, especially during the shoulders of the domestic production season (e.g. April and September for blueberries). This increased supply may lower the domestic price and reduce grower returns. Figure 3 shows increases of imports in the shoulder season for blueberries.

Regardless, trade exposure can be a major challenge for domestic producers. As one respondent to the NARBA survey said: “This is the last year I will grow blackberries. Foreign market price has made it impossible to grow blackberries at a profit.” Recognizing this challenge, the office of the United States Trade Representative (USTR) has made a formal request to the International Trade Commission (ITC) to investigate the extent to which imports have harmed U.S. blueberry growers. The USTR is also monitoring strawberry and bell pepper imports for possible ITC action.

Tariffs are another trade challenge for specialty crops. Recently, the European Union imposed \$4 billion in tariffs against the U.S. in retaliation for U.S. state subsidy support of Boeing.⁴ The affected crops include sweet potatoes, fresh grapefruit, fruit juice and nuts. My colleague, Blake Brown, has estimated that the tariff increase from 3% to 25% may reduce sweet potato exports by as much as \$70 million, 12% of the value of 2019 US production.⁵



*Note: ROW = Rest of the World, includes Canada cultivated and wild blueberries with large blueberries shipments in July and August.
 Source: Agricultural Marketing Service Shipment Data, U.S. Census Bureau Trade Data.

Figure 3: U.S. blueberry shipments: domestic and imports, 2000 and 2019 by month [reproduced from [reproduced from Kramer, Jaclyn, Skyler Simnitt, and Linda Calvin. 2020. "Fruit and Tree Nuts Outlook: March 2020," 26.]

Price Stagnation: An Issue Before COVID-19

Although fruit and vegetable prices have been increasing – fruit and nut prices have increased by 20% and vegetable and melon prices have increased by 40% since 2011 – many producers are not receiving higher prices at their point of sale. The 2019 American Vegetable Grower’s State of the Vegetable Industry Survey asked vegetable industry members how their prices compared to ten years ago.⁶ Many respondents answered that their prices were flat or lower now than they had been a decade ago. In particular, 38% of farm marketers and 64% of processors have not seen price increases.

Similarly, in the NARBA survey, we asked caneberry growers how many years they had the same prices. Figure 4 summarizes the results. Over 90% of blackberry growers and all raspberry growers responded that they had the same prices for two or more years. Seven percent of blackberry growers and ten percent of raspberry growers reported receiving the same prices for more than 10 years.

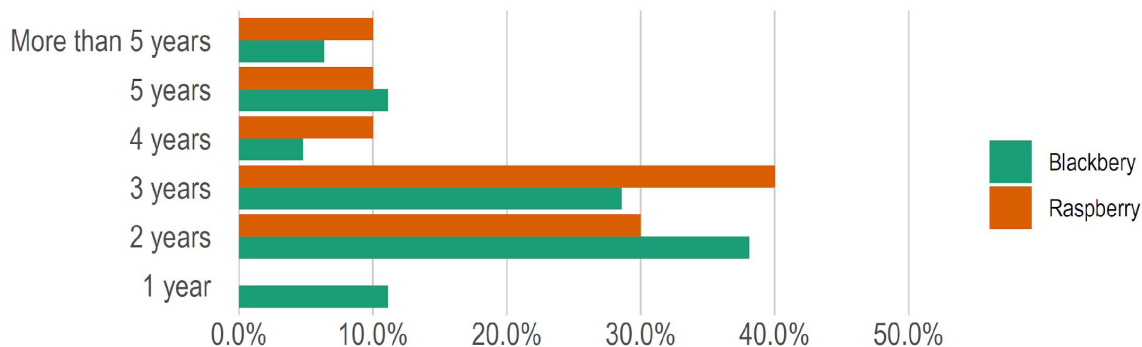


Figure 4: Number of years caneberry growers reported receiving the same prices [reproduced from Tregagle and Wechsler (2020)]

COVID-19’s Impact on Specialty Crops in NC

The Purdue University Ag Vulnerability Index⁷ estimates the effect of COVID-19 on agriculture for each county in the U.S. The Index breaks down the results by crop type; but for specialty crops, it only reports results for vegetables. Assuming that agricultural workers are infected with COVID-19 at the same rate as the county as a whole, the index estimates that 7,316 workers in North Carolina have been infected, leading to a 5.14% reduction in vegetable production in the state. The pandemic has most affected counties in the south and east of the state, with losses of over 13% estimated in Sampson, Greene, Duplin, Gaston, and Robeson counties.

COVID-19 has Amplified Existing Concerns about Labor Scarcity

Although concerns about the availability of labor in specialty crop production have pre-dated COVID-19, the pandemic has amplified them. In 2019, the trade publication Growing Produce conducted a survey of vegetable growers, asking them about their major concerns.⁸ Labor availability topped the list, with 57.8% of respondents identifying labor availability as the major concern. Pests and unexpected weather followed with 48% and 44.6% respectively.

Workers for the most labor-intensive components of specialty crop production often come from the H-2A visa program, where foreign workers can live and work legally in the US for up to 10 month periods.⁹ Employing H-2A laborers is more costly for growers than domestic workers (assuming domestic workers are available). Employers are required to pay a wage higher than the federal and state minimum, known as the ‘Adverse Effect Wage Rate’ (currently \$12.67/hour in NC), are required to provide housing for the workers during their stay in the U.S., and must cover transportation costs to and from the worker’s home country. Despite these additional costs, demand for H-2A workers has outstripped supply, and the U.S Department of Labor (DOL) has responded by increasing the annual cap each year for the last decade to allow more workers into the country.¹⁰

Given the requirement for international travel, as well as often living close-quarters on-farm, H-2A laborers are particularly vulnerable to COVID-19. The U.S. Departments of Homeland Security, DOL, USDA, and the State of North Carolina have attempted to protect H-2A workers and ensure their continued availability during the pandemic, with actions including “interview waivers for certain applicants, allowing H-2A workers to transfer contracts without returning to their home country, and extending the three-year maximum cumulative stay for H-2A workers.”¹¹ Despite these actions, the availability of H-2A workers may continue to decline in 2021, and employers may need to pay higher wages and provide additional benefits to attract agricultural workers.



Specialty Crop Prices Have Remained Relatively Stable

With COVID-19 causing widely reported disruptions in agricultural supply chains and changes in consumers’ purchasing patterns, it is surprising that market prices for specialty crops have remained relatively stable. One study reviewed U.S. prices for apples, oranges, bananas, lettuces, tomatoes, and potatoes at all Agricultural Marketing Service terminal markets and found that the overall effect of the pandemic on wholesale prices countrywide was statistically insignificant.¹² However, there were statistically significant effects at some regional markets. For the two terminal wholesale markets closest to North Carolina, the authors of the study found that the wholesale market price in Atlanta, GA fell by 5.4% due to COVID-19 and the price in Columbia, SC fell by 2%. The authors found no statistically significant impact on retail market prices. Since the price reduction is only detectable in the wholesale market, it suggests that the burden of the price fall was borne by growers, processors and distributors.

Changes in Consumer Preferences and Behavior

Another study explored the effects of COVID-19 on consumer behavior and preferences for food, which characterized the consumer response to the pandemic into two stages.¹³ Stage One was an emotional response at the beginning of the pandemic, characterized by “impulsive shopping behavior such as panic buying and hoarding.” Stage Two was a rational response as the pandemic developed and consumers were required to make more deliberative decisions in response to changes in their income and other circumstances. Consumers’ more rational response is likely to continue into 2021.

Four aspects of the “stage two” rational response are worth highlighting. First, as income declines, lower-income consumers tend to switch away from fresh fruits and vegetables to cheaper, more calorie dense foods. Because of this reaction, we may see depressed demand for specialty crops until the economy recovers. Second, consumers have increased concerns about food safety.

Around half of consumers have reported avoiding products from China due to the pandemic. This may boost demand for domestic products. Third, consumers are switching to online retailing. As one respondent to the NARBA survey noted, “The farmers markets I attend have launched pre-order, pre-payment on the internet in response to COVID-19 and it has proven quite successful.” Fourth, consumers are paying more attention to the food supply chain because of their concerns about food safety. They may be willing to pay more for products with transparent supply chains and verifiable safety standards. This presents an opportunity for domestic producers, especially for growers engaged in direct-to-consumer sales.

Changes in Customer Sales and Volume in the NARBA Survey

Our survey questions regarding COVID-19 mainly invited written response, some of which are interspersed throughout this article. However, our key quantitative questions asked about changes in customer volume, sales per customer, and total sales this year. Figure 5 summarizes the results from these questions. Around half the respondents reported that sales were the same as usual this year and a little over one-third reported an increase in sales. Just under a third reported a decrease in sales. Over three-quarters of respondents reported that sales per customer were stable, and around half reported that the customer volume was stable. Half of respondents growing blackberries and just under 40% of raspberry growers reported an increase in customer volume. No blackberry or raspberry growers reported a reduction in customers or sales per customer this year.

We could split the sample by growers engaged in direct marketing (farm stands, farmers’ markets, and U-pick operations) or wholesale marketing (sales to wholesalers or processors). We found no statistical difference between these two groups in their responses to questions about changes in

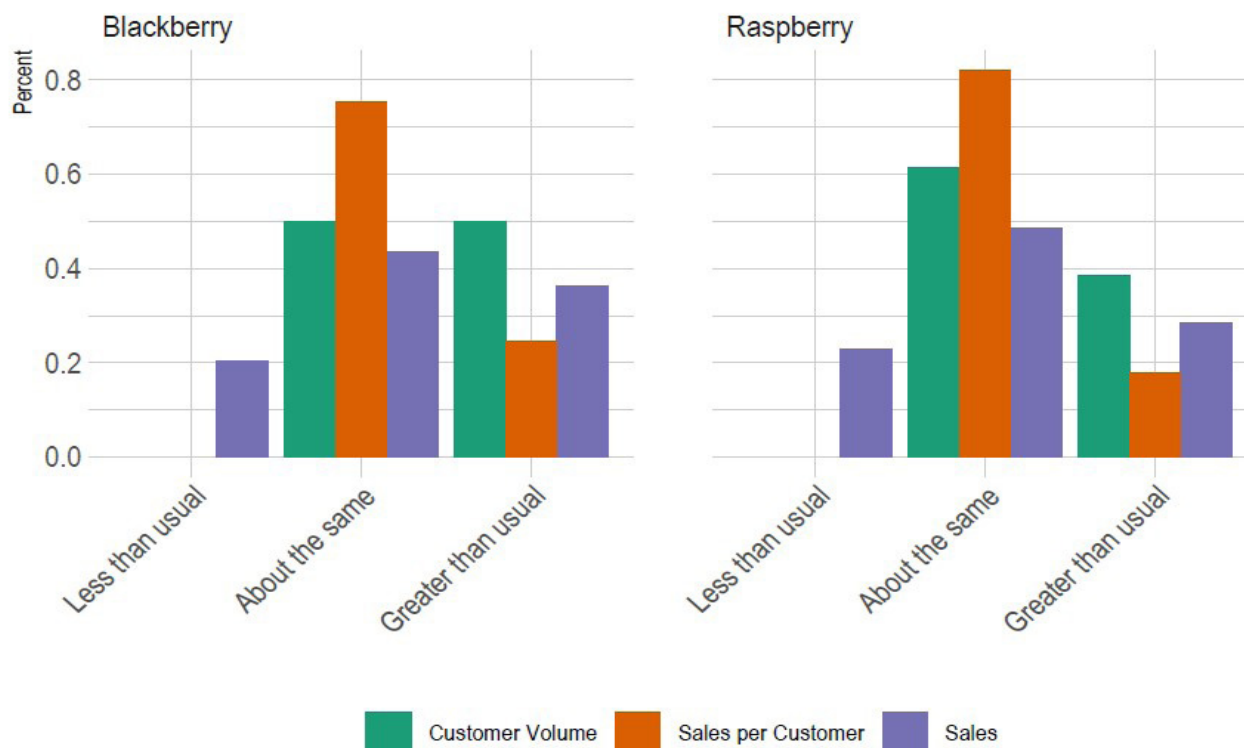


Figure 5: Grower responses to questions about changes in sales and customer volume in 2020 [Reproduced from Tregagle, Daniel, and Debby Wechsler. 2020. “Report on NARBA’s 2020 Pricing and Marketing Survey.” North American Raspberry and Blackberry Association. [https://cals.ncsu.edu/are-extension/crops-marketing-and-logistics/specialty-crops/.](https://cals.ncsu.edu/are-extension/crops-marketing-and-logistics/specialty-crops/)]

sales or sales per customer. However, we found that as the proportion of a respondent's wholesale sales increased, the estimated likelihood of them reporting an increase in customer volume decreased. For blackberry growers, a grower only selling directly to consumers had a 60% probability of reporting an increase in customer volume, while a grower selling only to wholesalers only had a 10% probability of reporting an increase. These results are consistent with reports of increased consumer interest in knowing the source of their food and understanding the supply chain. As one NARBA survey respondent described it: "the customers appreciate a trip out to the farm to see where their fruit and produce come from. More people say they will be buying local this year."

Conclusion

COVID-19 has presented unique challenges to the ongoing growth of the U.S. specialty crop industry. These challenges include exacerbating existing labor scarcity, changing consumer preferences, and stagnant farm-gate prices. The results from our caneberry grower survey indicate that small growers, especially those selling directly to consumers, have had a good year. Even so, growers have had to adapt to the disruptions caused by the pandemic, a process well summarized by this quote from the survey: "We have diversified markets to take advantage of the demand for local food as well as hedging against supply chain disruptions that seem to be the norm in 2020 due to COVID-19. This is something we were working toward anyways but COVID has accelerated the process." Furthermore, many of these changes may become the new normal as we adjust to and overcome the pandemic. Another grower predicts "many of the adjustments could become standard operating procedures in the future."

Endnotes

- 1 The full survey results are available at: <https://cals.ncsu.edu/are-extension/crops-marketing-and-logistics/specialty-crops/>
- 2 Source: <https://data.ers.usda.gov/reports.aspx?ID=17830>
- 3 Dohlman, Erik, James Hansen, and David Boussios. 2020. "USDA Agricultural Projections to 2029." USDA. <https://www.ers.usda.gov/publications/pub-details/?pubid=95911>.
- 4 <https://www.freshplaza.com/article/9267922/european-union-tariff-on-us-goods-affects-sweet-potatoes-grape-fruit-and-more/>
- 5 <https://cals.ncsu.edu/agricultural-and-resource-economics/news/potential-impacts-of-the-25-percent-tariff-levied-by-the-european-union-and-united-kingdom-on-u-s-tobacco-tobacco-products-and-sweet-potatoes/>
- 6 <https://www.growingproduce.com/vegetables/crop-prices-are-frozen-in-time-opinion/>
- 7 <https://ag.purdue.edu/agecon/Pages/FoodandAgVulnerabilityIndex.aspx> (accessed: Dec 24, 2020)
- 8 <https://www.growingproduce.com/vegetables/which-issues-have-your-attention-2019-state-of-the-vegetable-industry/>
- 9 Luckstead, Jeff, and Stephen Devadoss. 2019. "The Importance of H-2A Guest Workers in Agriculture." *Choices* 34 (1): 8.
- 10 Farnsworth, Derek. 2020. "U.S. COVID-19 Policy Affecting Agricultural Labor." *Choices* 35 (3): 6.
- 11 Farnsworth (2020), p.3.
- 12 Çakır, Metin, Qingxiao Li, and Xiaoli Yang. 2020. "COVID-19 and Fresh Produce Markets in the United States and China." *Applied Economic Perspectives and Policy* Early Access.
- 13 Melo, Grace. 2020. "The Path Forward: U.S. Consumer and Food Retail Responses to COVID-19." *Choices* 35 (3): 7.

NC State Economist is a quarterly publication of the Department of Agricultural and Resource Economics
Editor: **Andrew Branam, J.D.**, Extension Assistant Professor
Communications Coordinator: **Margaret Huffman**