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The Christmas Tree Industry in North Carolina: Characteristics and Challenges Ahead

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Introduction

Christmas is celebrated in different parts of the world. In many people's imagination, the most recognizable symbol of this holiday is the Christmas tree. Decorating Christmas trees has been a long-rooted tradition both in homes and public spaces. Due to their widespread popularity, natural Christmas tree production is an important industry that makes sizable contributions to the rural economies in which trees are grown in the United States.

According to the National Christmas Tree Association (NCTA), the history behind the use of decorated Christmas trees is not precisely known, but some records suggest that the practice began in Europe around the 1500s. Christmas trees were introduced to the U.S. by German immigrants at the start of the nineteenth century. Their commercialization started around 1850, when trees were taken directly from forests. In 1901, the first known Christmas tree farm in the U.S. opened in New Jersey (NCTA, 2022a).

As shown in Figure 1, Christmas trees are grown and harvested in all 50 states. Five states, Oregon, North Carolina, Michigan, Pennsylvania, and Wisconsin lead the way in terms of both tree production and sales (U.S. Department of Agriculture, 2019). Around 30 million natural Christmas trees are sold in the U.S. every year. To satisfy this market demand, over 100 million trees are currently growing on the more than 15,000 farms across the country, and employ over 100,000 full- or part-time workers (NCTA, 2022b). The U.S. is also a leading exporter of Christmas trees, with trees shipped

A Christmas tree farm in rural North Carolina (Watauga County). Source: NC State Photo Gallery.

to a number of countries including Canada, Mexico, Brazil, Russia, Japan, China, and the Philippines (PNWCTA, 2022; NCAGR, 2022; Jones, 2012; NCCTA, 2022). Throughout the U.S., more than twenty species of Christmas trees are grown including Cedars (Deodar and Easter Red), Firs (Balsam, Douglas, Fraser, Grand, Noble, Nordmann, White, Afghan, and Austrian), Pines (Red, Ponderosa, Scotch, Virginia, and White), Spruces (Black Hills, Blue, Norway, and White), and Leyland Cypress (University of Illinois Extension, 2022).

Figure 1. Distribution of Christmas Tree Production in the U.S., 2019
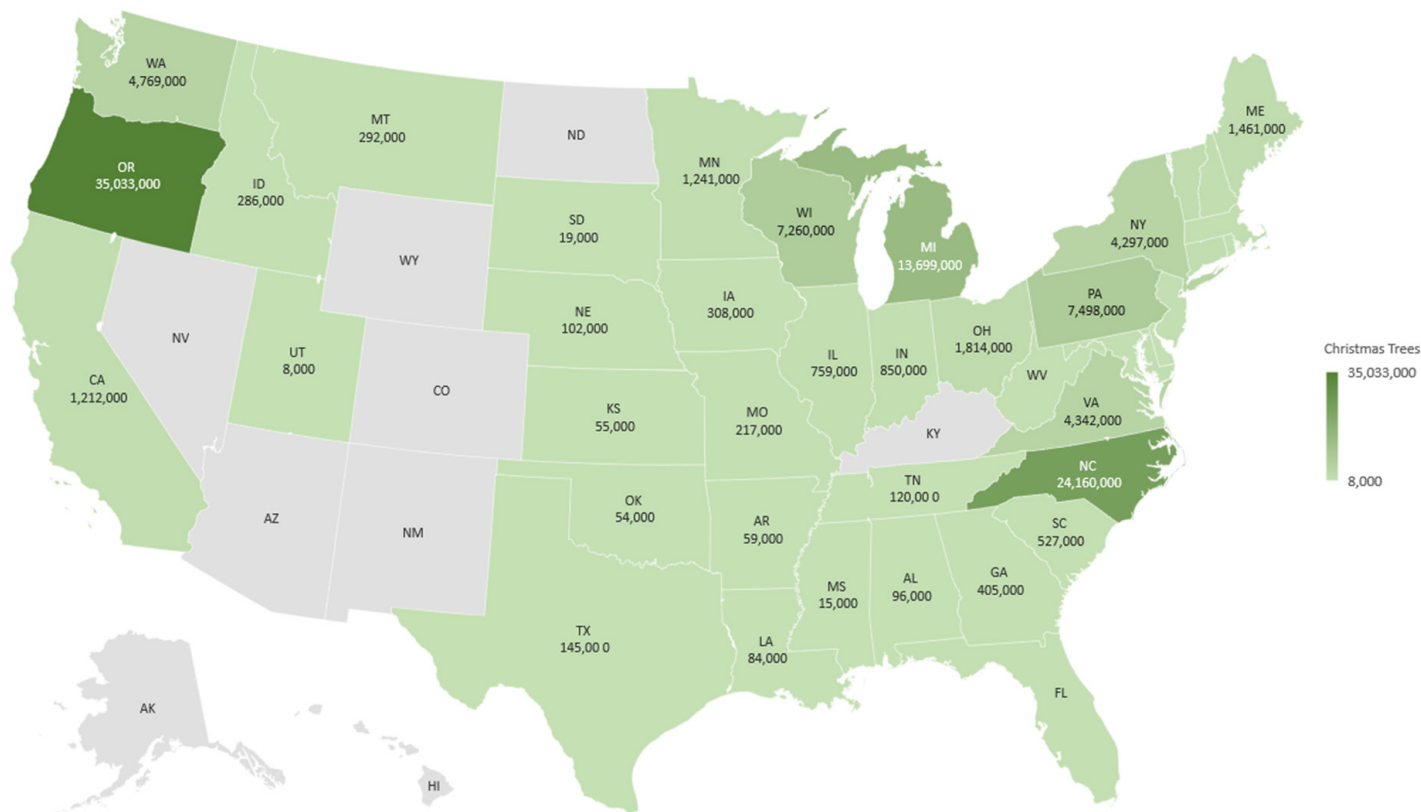
Note: Data from the USDA, National Agricultural Statistics Service (2019). Information for states in gray was not disclosed to preserve the anonymity of individual producers as production in those states was not large.

In 2021, nationally, around one-quarter of natural Christmas trees were purchased from "Choose and Cut" farms, 28.5% from chain stores (like Costco or Home Depot), 16.2% from retail lots, 11.6% from nurseries, and rest from other sources like churches or Boy Scouts (NCTA, 2023). The median price of a natural Christmas tree was $76.87 in 2019, and has since increased due to higher labor costs, extreme weather in parts of Oregon and other producing regions, a reduction in imports from Canada, and a rise in fuel and transportation costs (Carrns, 2021).

The Christmas Tree Sector in North Carolina

Among U.S. states, North Carolina is the number one producer of Fraser Fir trees and ranks second in the production of Christmas trees in general (Figure 2). According to the North Carolina Christmas Tree Association, Fraser Fir trees were named after John Fraser, a Scottish botanist who traveled to the southern Appalachian Mountains of North Carolina in the late 1700s (NCCTA, 2022b). This species of tree grows at altitudes of 3,000 feet or more and requires colder temperatures and significant rain, making western North Carolina an ideal place to grow them. Fraser Firs have a pyramid-looking shape,

can reach up to 80 feet, and normally have a trunk diameter between 1 and 1.5 feet.

Figure 2. U.S. States with Highest Value of Christmas Tree Sales, 2019
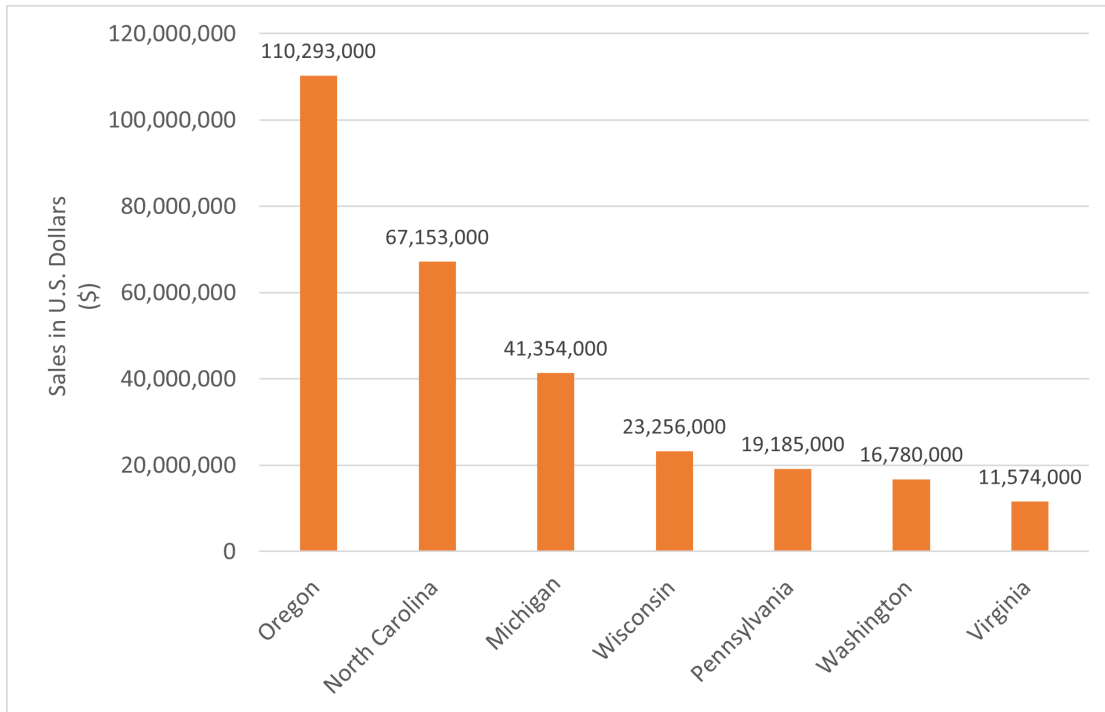
Note: Information from the USDA National Agricultural Statistics Service (2019). Data in current U.S. dollars of 2019.

Although there is production of trees in the eastern part of the state, most Christmas tree farms are located in western North Carolina, with production concentrated in Ashe, Alleghany, and Watauga counties (Figure 3). Christmas trees are an important part of the economy of North Carolina. Around 40,000 acres (mostly in the western part of the state) are used to grow Christmas trees by

Figure 3. North Carolina Counties with Highest Christmas Tree Production, 2019
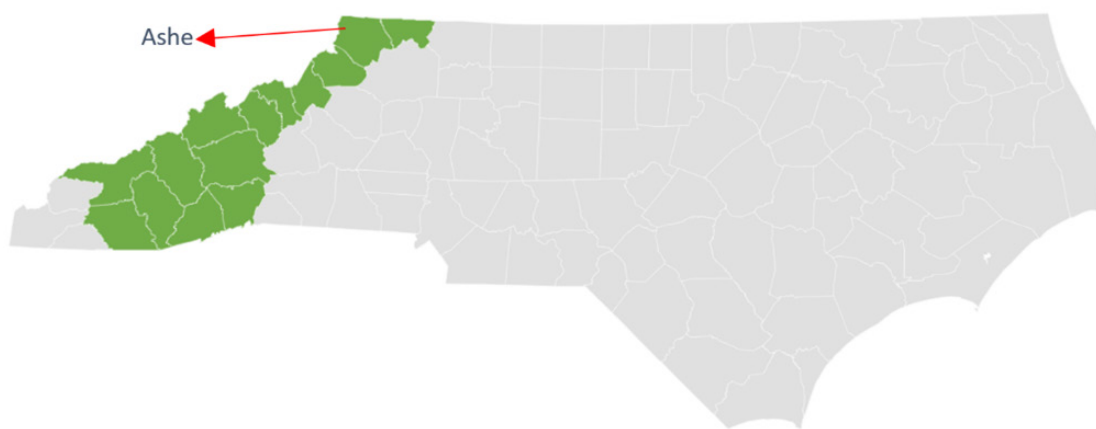
Note: The highlighted counties are those with the highest Christmas tree production based on data from the USDA National Agricultural Statistics Service (2019). These counties include Alleghany, Ashe, Avery, Buncombe, Haywood, Henderson, Jackson, Macon, Madison, Mitchell, Swain, Transylvania, Watauga, and Yancey.

approximately 850 farmers (NCCTA, 2022a). Among these, a significant majority (94%) are Fraser Fir (Sidebottom, 2009). Producers vary in size, with sales ranging from a few dozen trees to thousands in a given year, and farms differing in size from 1/10th to over 1,500 acres (Owen, 2016).

The economic value of trees goes beyond the price at which they are sold. A dollar generated by a tree grower can circulate up to 2.5 times in local markets, as producers' and workers' earnings are reinvested in land, vehicles, groceries, and buildings in regional growing towns like Boone and Asheville (Sidebottom, 2009).

Main Challenges Faced by Christmas Tree Growers

General

Real Christmas tree producers face a variety of hardships. Similar to growers of other agricultural products, price volatility, droughts, fires, heat waves, increasing input costs (particularly labor), more regulations, and trade disputes are major sources of concern (Venesky, 2022). In addition, there is a long time lag between planting and harvesting trees (around eight to ten years), making it difficult for growers to forecast consumer demand so far into the future (Crockett, 2020). Unlike some specialty crop growers that have been able to mechanize their processes, Christmas tree production cannot be as easily automated given the terrains in which trees are grown (Darrough, 2019). Pests, like nematodes and deer, as well as increasing urbanization in rural areas, are also making it harder to grow trees. Pandemic-induced issues like scarcity of fertilizers and truck drivers are also a concern for growers. Importantly, the rise in sales of artificial Christmas trees is an emerging threat (Chiwaya and Wu, 2018).

Labor

The lack of a reliable labor supply is one of the main problems that tree growers have been facing (Hamilton, 2004). The issue is also present in other sectors of the agricultural economy, as farmers around the country have been experiencing difficulties recruiting and keeping workers (Gutierrez-Li, 2020). In the case of North Carolina, the number of "follow-the-crop" workers traveling from neighboring states has declined substantially, and many farmworkers that migrated decades ago have sought opportunities for their U.S.-born children outside of agriculture. Additionally, cities like Raleigh and Charlotte are experiencing rapid growth, which has resulted in a dynamic real estate market that has developers competing for workers previously employed in agriculture. The sharp reduction in the supply of farmworkers in the U.S. has been partially offset by the rapid growth in the H-2A program (Gutierrez-Li, 2020). This visa avenue allows American growers to bring people from other countries to work on U.S. farms legally. North Carolina has consistently ranked among the top five states employing H-2A workers. However, the high costs associated with hiring H-2A laborers (wages, fees, international and local transportation, insurance, and housing), as well as all the paperwork involved, have kept the program as a viable option mostly for larger farmers.

Workers baling a tree at a Christmas tree farm in rural North Carolina. Source: NC State Photo Gallery.

Growing Christmas trees requires labor at all stages of production (NCCTA, 2022a). Workers are needed to plant seeds in nurseries. As the plants mature, they need to be moved to larger spaces. Once trees reach a height of about three feet, they are sheared, which involves cutting the top of the tree to slow its growth pace, allowing it to branch out faster. In addition to shearing, workers have to trim the branches to shape the tree in a desirable way. Once the tree is ready to be sold, it is harvested by hand and then baled. The baling process involves a machine that wraps the trees in twine to make their transportation easier. In addition, labor is used for pest control, soil preparation, transplanting, watering, fertilization, and spraying. Likewise, workers, often women, are employed to create other tree-related products like garlands and other ornaments. Finally, a variety of white-collar workers of different skills are hired for the marketing, advertising, accounting, managerial, and other operational parts of the Christmas tree business.

North Carolina Growers' Perspective on Labor Challenges

A pilot survey of growers was conducted in the western part of North Carolina to better understand the labor needs of Christmas tree farmers in the state. In total, 28 responses were received from farmers of different production scales. The surveys were administered online and on paper between the last quarter of 2021 and the first quarter of 2022, including at the winter meeting of the North Carolina Christmas Tree Association. An invitation to answer the questionnaire was emailed by the NCCTA to its members. Most participants are full-time Christmas tree growers, although some raise cattle or grow other products like pumpkins and potatoes. While nearly all respondents said that their Christmas tree farm was a family business and that some of their closest relatives also work on the farm, all but two expressed having problems getting enough workers. Growing trees is the primary occupation of almost all respondents.

All farmers who responded to the survey mentioned that it is difficult to recruit and keep local workers, with the most common reason being that they "wouldn't show up to work." Likewise, the majority of producers said not having access to enough workers was preventing them from expanding their business. Farmers indicated that if the problem of labor scarcity is not resolved, the Christmas tree industry will be endangered, as growers will "go out of business" or stop farming. Producers also predict that if the costs of labor keep rising (causing prices of natural trees to need to rise), consumer demand will shift towards artificial trees. As one farmer stated, "We will not be able to sustain a competitive real tree industry. Our market will be taken over by artificial plastic trees imported from China."

Workers at a Christmas tree farm in rural North Carolina. Source: NC State Photo Gallery.

For almost all growers interviewed, foreign workers were their main source of labor. Many are using the H-2A visa program to employ individuals on their farms. While farmers are concerned about the costs associated with bringing H-2A workers, they expressed their satisfaction with the productivity of these workers (who are mostly Hispanic), one highlighting that "they work hard and are dependable," another saying that "they want to work, show up on time, they work hard. Work in

bad weather conditions," and a third one indicating that workers have "great work ethic, are talented, intelligent, punctual, hardworking, dependable."

Concluding Remarks

Christmas is a major celebration around the world. Linked to this tradition are real Christmas trees, whose production in the United States is concentrated in Oregon and North Carolina. While the demand for natural trees is not expected to wane in the foreseeable future, growers of Christmas trees face major challenges to remaining in business, the most notable one being the difficulty in having sufficient access to dependable workers. As most Christmas tree farm employees are foreign-born Hispanic workers coming to the U.S. under H-2A visas, improvements to this program could, if made, strengthen its ability to provide farmers with a stable pool of workers over the long run. In the Farm Work Force Modernization Act, currently under discussion in Congress, several modifications to the existing program are under consideration: 1) allowing workers to be hired all year round; 2) giving workers the option to work for multiple employers; 3) establishing a worker pathway to permanent residency and citizenship; 4) reductions to the paperwork needed to hire workers; 5) creating legalization opportunities for undocumented farmworkers; and 6) updating compensation rules. These changes could allow growers to plan more efficiently and be better prepared to meet the demand for trees.

In addition to proposals for immigration reform, there are actions that farmers can take to better handle labor shortages (Gutierrez-Li, 2020). Satisfying their current workforce with monetary and non-monetary incentives can increase the odds of retaining and attracting new workers to their farms. Similarly, investing in mechanical aides can help growers increase workers' productivity and allow older workers to remain in agriculture for longer. By working closely with researchers to automate some parts of the production processes of growing trees, farmers can reduce their dependence on labor.

Despite challenges related to inflation, higher input costs, and labor shortages, the production of Christmas trees represents an attractive opportunity for many U.S. growers. Although there has been a shift from some consumers towards buying artificial trees, the overall demand for real Christmas trees is still strong thanks to people's preferences for natural trees as well as population growth and the expansion of markets overseas. Likewise, tree prices have increased to somewhat compensate for the rise in costs, without a drastic reduction in demand (Sharp, 2022). The fact that trees can be harvested over a roughly three-year window also provides farmers with the flexibility to cut them earlier or later than initially planned, depending on market conditions in a given year. In North Carolina, a solid Christmas tree industry will help guarantee that the economies of the mountainous areas will remain prosperous and green in the decades to come.

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