

Limbs & Needles

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50

Serving the Christmas Tree Industry in the South



limbs & needles

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“Tools For Decision Making”

THEME OF NATIONAL CONVENTION IN BOONE, NORTH CAROLINA

With an eye on increasing profits, the National Christmas Tree Convention will get under way August 21 - 23 at Appalachian State University in Boone, North Carolina. Special sessions on genetic improvement of trees to withstand air pollution, to minimize pests, and to improve form and color are scheduled. The business side of the industry is handled in sessions covering the use of records in relation to market demand, to cost, effectiveness of cultural practices and species performance. Also, a session devoted to “Public Relations in the Christmas Tree Industry” will be given by Mr. George C. Cheek, Executive Vice President of the American Forest Institute.



John Wagoner and Don McNeil make plans for exhibit space and signs at Sandy Davison and Mr. and Mrs. Bruner Sides listen.

On Tuesday there will be a tour to Winston-Salem and to Blitsmore Mansion and Gardens. On Wednesday there will be a Ladies Luncheon combining a tour and theater performance and a “Pig Pickin Party” will be a day of tours to Christmas Contest

1973-2023

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INSIDE:

ANNOUNCING... A New Name for the Christmas Tree Promotion Board

A Closer Look at Trico Deer Repellent

How the smell of Christmas may protect Fraser fir against deer browse

Breaking Down Barriers in Agriculture Safety and Health

Understanding and Managing Farm Stress

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The mission of the North Carolina Christmas Tree Association is to promote "real" Christmas trees through marketing and education. We will contribute to the success of the Christmas Tree Industry by providing ethical, professional, and visionary leadership.



Keeping Christmas Real Since 1959

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Front Cover Photo: *Farm worker, Janine Hasty, preparing a beautiful Fraser fir to be cut at Clawson's Tree Farm. Photo provided by NCCTA.*

The editors will not be responsible for the content of articles not written by them. Limbs & Needles will try to return articles and pictures if requested but will not accept responsibility if these items are misplaced.

Subscriptions are \$35 per year for members of southeastern Christmas tree associations and \$45 per year for all others.

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President's Message

Dee Clark



Today, it is harder than ever to raise and send a crop of Fraser fir to market. From phytophthora in our soil, elongated hemlock scale on our trees, to increasingly expensive labor, the obstacles we face seem to grow daily. To help overcome these obstacles, research is key.

Growing up in this industry, I have seen every agricultural practice that we use change in my lifetime. In the 1960s, we sheared trees in the winter. Now, more than 90% of shearing happens in the summer. We used to use dangerous chemicals, and now today our sprays are safer (both for people and the environment). Even the way we store our trees after harvest has changed.

The reasons behind all the changes have grown out of research, which has provided us with better, more efficient ways to grow our trees. John Frampton, Jeff Owen and Jill Sidebottom all spent many years conducting research and publishing results that helped us develop the best practices. John and Jill have recently retired, and Jeff will be retiring soon. They and others before them conducted a lot of studies related to growing trees and the wealth of knowledge that they contributed to our industry is massive. Justin Whitehill recently took over John's lab at NC State and has made it his own. Justin is working full steam ahead to make Fraser fir, the perfect Christmas tree, even better. Research needs multiple resources—time, expertise, money, among others—in order to innovate. The two main sources of funding for this research are Fraser fir assessments and monies allotted by the North Carolina legislature. Jamie Bookwalter has been hired to fill Jill's entomologist role for the association. We look forward to her integration into our farming lives and also appreciate additional support provided by the Upper Mountain Research Station, the Linville River Nursery, and the cooperative extension offices in our growing counties.

Research (as well as legislation related to our farming practices), is why we must cultivate relationships with our legislators on issues pertaining to our industry.

Representatives may have agricultural backgrounds, but few, if any, are familiar with the NC Christmas Tree Industry, which is unique in many ways. Our crop cycles are long, our harvesting is very hands on, and the ideal growing environment is on the side of high mountains. Therefore, we need to strategically use the proper channels and have all our trees in a row, so to speak, in order to advance our cause. We need to go into meetings fully prepared, providing verified information using the same language and having the same message in order to be most effective in communicating our needs.

If you want to become involved in this process, please contact the NCCTA office for the most up to date information and statistics about the industry. We can plug you in to our research committee or our legislative board representative and as we establish and grow communication channels with key legislators. The more people we have working towards our goals together, the more amplified our voice will be in Raleigh. We have a structure in place which involves coordinated communication with legislators as part of a larger funding plan for the Whitehill Christmas Tree Genetics lab, and for other research projects funded by the association.

Recently a delegation from NCCTA networked with legislators at the NC State Fairgrounds as part of an NCDA reception and met earlier in the day with key representatives as part of an Ag Alliance lobbying event. We were able to gain a substantial increase to Justin Whitehill's budget for genetic research through contacts we made with legislators serving on Ag Appropriations Committees and as representatives from our districts. This research is going to be very instrumental in helping our industry going forward. The more we support research, the more it will give back to us. 🌲



Semi-Annual Meeting, Tradeshow & Farm Tour

August 11 & 12
2023
Mitchell County

Don't miss out on this year's summer meeting and the opportunity to come together and network with fellow growers, allied businesses and industry friends.

Friday, August 11
Meeting, Tree & Wreath Contest, and Trade Show — Cross Street Commerce Center, Spruce Pine

Friday Evening
Join us at the Cross Street Commerce Center for live music and BBQ.
Event starts at 5:30pm.

Saturday, August 12
Mitchell County Farm Tour

Early registration deadline is July 21, 2023. Be sure to pre-register by the deadline for discounted registration prices!

Must mention "NC Christmas Tree Growers Association" to get discounted rates.

Make your reservations early to receive the discounted NCCTA lodging rates:

Blue Ridge Boutique Hotel
203 Pinebridge Ave, Spruce Pine • 828-765-0391

Big Lynn Lodge (6.4 miles from meeting location)
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Registration details will be available at nchristmastrees.com in June
Sponsorship opportunities are available.

THANK YOU FOR YOUR SUPPORT
You are a vital part of the real, farm-grown Christmas tree industry.

Executive Director's Report

Jennifer Greene



Over the last five years, the NC Christmas tree industry has experienced a period of strong demand and rising tree prices. It is without question a high point over recent market cycles and a positive trend for growers. However, "good times" only represent a superficial first glance of the market situation. Real Christmas tree growers have already lost 84% of US households to artificial tree manufacturers and risk losing their ability to tell their own story to US consumers.

In recent years, the NCCTA has had an increasing level of social media presence targeted toward millennial families. Posts and advertisements are designed to drive social media traffic to the association website where visitors can find information they need. The current market demands continued renewal, engagement with new platforms, and swift pursuit of a young millennial audience. Reliance on email marketing and Facebook alone will not compete when younger audiences have shifted to Instagram, YouTube, and other social platforms.

Social media influencers can be a successful tactic to magnify exposure of posts and increase points of contact with consumers. The value of influencers on social media platforms is that they allow access to a huge and established community of customers that already trust the influencer's recommendations. By working with select influencers, the NCCTA can reach a customer base that would never consider following an agricultural topic or commodity account. Their followers' interests only turn to Christmas trees for fleeting moments every year, an awareness that can be expanded within the broader context of influencer-relationships.

The NCCTA can identify and work with those influencers who connect to our millennial family tar-

get audience and represent values inherent to real Christmas trees: authentic family experiences, engaging with the natural world, tapping into a centuries-old, heart-warming tradition, and choosing a farm-grown renewable resource over plastic. Ideal influencers may engage young families, moms, dads, or even fervent gardeners. Working with influencers will also allow NCCTA to diversify the reach of the target audience by marketing to the many types of households: single parents, dual-income, heterosexual parents, LGBTQ+ parents, foster parents, etc., rather than marketing to one demographic. By working with influencers, we can share our message with their followers by aligning with common interests and by highlighting the many benefits of buying a real North Carolina Fraser fir, the perfect Christmas tree.

NCCTA has been approved for Specialty Crop Block Grant funding in the amount of \$102,704.50.

With this money, The NCCTA will build on previous successful Specialty Crop Block Grant projects by expanding its social media distribution across current platforms using shared value strategies to extend brand awareness of the superior quality of "North Carolina Fraser fir, the perfect Christmas tree" to consumers, and to provide a counterpoint to extensive misinformation from the artificial tree manufacturers. Through brand influencers who will assist with research and coordination for our brand in the Southeastern U.S. This project will also support both growers and Christmas tree retailers by providing new and updated educational and promotional materials across print, social media, and video formats. 🌲

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National News

Wilson Barr

2023 NCTA Meeting and Contest

The 2023 Board Meeting and National Christmas Tree and Wreath Contest will be held in conjunction with the Minnesota Christmas Tree Association meeting hosted by Wolcyn Tree Farms & Nursery, Cambridge, MN. The NCTA board meeting will be 1:00 pm Thursday, August 3, 2023 at the Best Western Plus Isanti, MN, the contest will be held at Wolcyn Tree Farms on Friday, August 4, 2023.

The 2024 NCTA summer board meeting will be held in Nova Scotia, Canada, dates to be determined.

Legislative Update

Following the 2023 midterm elections the stage would appear set for two highly contentious years leading up to the 2024 Presidential election. Legislative gridlock will be the rule, which can be a blessing or curse depending on the issue. Major tax changes harmful to business will likely be held at bay, but prospects of helpful immigration and visa policy legislation look dim too. Even must-pass bills will struggle to advance in an environment of legislative brinkmanship. Reauthorization of the Water Resources Development Act will be especially challenging given the growing severity of the Western water crisis. Limited bipartisan cooperation could emerge around must-pass legislation like a new Farm Bill.

Sadly, Congress failed to act on farm workforce reform during the “lame duck” session. We say sadly because while the legislation under consideration had both good and problematic elements, it would have stabilized H-2A wages through a one-year pause and limits on future increases. It would have meant new visas for non-seasonal positions, current workforce stabilization, some process streamlining, and other changes. While hope springs eternal, there is little reason to believe the new Congress will be up to the

task. And so, efforts shift mainly to defense of the labor safety net programs our industry now uses, notably H-2A and H-2B.

Recent months have brought steep H-2A wage increases and other problematic changes. A new H-2A wage rule is also imminent, a process which started during the last administration. At a minimum, we expect new (higher) wage standards for special job duties such as truck driving and construction. On H-2B, cap relief remains our top priority. The Biden administration has already signaled its intent to release the maximum number of discretionary supplemental visas allowed by Congress, which is helpful.

The Farm Bill, the primary articulation of U.S. farm policy, is revised and renewed by Congress every five years. And yes, 2023 is the year for a new Farm Bill. While historically focused on row crops, livestock, and other tangential issues, the Farm Bill has become very relevant for horticulture, including Christmas tree producers. And so, the Farm Bill will be our top legislative priority this Congress.

Most of our focus over the last 15 years or so has been on research and development funding via programs like the Specialty Crop Research Initiative (SCRI) and Specialty Crop Block Grant program (SCBG), as well as plant pest and disease prevention and mitigation. One of our go-to Christmas tree researchers over the years, Dr. Gary Chastagner, has stated unequivocally that his research program would not have been possible without the funding provided by these Farm Bill programs. Protecting and strengthening these programs is a top 2023 priority.

A second area of focus is on disaster-related safety net programs. Some in the industry have been to the “school of hard knocks” to learn about what does and (especially) doesn’t work with existing programs. We’ve engaged with our Specialty Crop Farm Bill Alliance coalition partners to advance an agenda of program reforms responsive to these “lessons learned.” The task now is convincing Congress, starting with the Agriculture Committees.

2024 Farm Bill Budget

NCTA signed on to a broad agricultural coalition letter sent to the House and Senate Agriculture and Budget Committees stating that “farm bill budget resources are needed for protecting and enhancing crop insurance to assist with volatile weather and crop loss, improving access to voluntary conservation incentives, addressing rural development needs, investing in research for innovation and competitiveness, providing opportunities to help the nation become more energy independent and food secure, and supporting solutions to address logistics challenges.

Sufficient budgetary resources will be needed to craft a new bipartisan, multi-year, comprehensive, and meaningful piece of legislation. As you work to build the federal budget for fiscal year 2024, we seek your support for providing sufficient resources to the committees to craft the next farm bill.”

NCTA Joins in Opposing H-2A Fee Increases

NCTA joined on to a letter to the U.S. Citizenship and Immigrations Services voicing strong concerns about proposed fee increases to be imposed on H-2A employers. The letter states: “This proposed fee increase comes at a time when American farmers are struggling with the cost of remaining in business, let alone the cost of participating in the H-2A program. Input costs such as fuel, electricity, seed, and fertilizer are all increasing, cutting into the bottom line of the American farmer.”

NCTA Supports Death Tax Repeal Act

NCTA joined the Family Business Coalition signing on to a letter of support for the Death Tax Repeal Act of 2023. The letter calls out that “The death tax is unfair. It makes no sense to require grieving families to pay a confiscatory tax on their loved one’s nest egg. Far too often this tax is paid by selling family assets like farms and businesses. Other times, employees of the family business must be laid off and payrolls slashed. No one

should be punished for fulfilling the American dream. The negative effects of the estate tax make permanent repeal the only solution for family businesses and farms.”

NCTA to Exhibit at NFPA

NCTA will exhibit at the National Fire Prevention Association show again in 2023 to provide important information to fire officials about farm-grown Christmas trees and holiday safety. 🌲

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- **First Benefits:** NCCTA members are eligible for workers' compensation coverage with no other membership requirements. (LifeStore Insurance and First Pioneer Insurance represent First Benefits Insurance at their respective agencies in the High Country).

Membership Benefits

- ✓ Listing with link to your own website on www.NCchristmastrees.com where over 92,000 visitors search for Christmas trees annually.
- ✓ Annual listing in the Buy-Sell Guide that promotes REAL trees to thousands of buyers
- ✓ Annual listing in the Choose and Cut Directory that promotes REAL trees to thousands of consumers
- ✓ You will receive an annual subscription (two issues) of Limbs & Needles Magazine; keeping you up-to-date on association news, technical information, Christmas tree research information, and industry updates and marketing & management tips.
- ✓ Updated tree inventory listing available on website after September 1
- ✓ Retail lot listing on website with Google location services
- ✓ Access to NCCTA's Online Member Center, with resources such as classifieds, wholesale buyer mailing list, choose & cut promotional mailing list, and digital archived copies of Limbs & Needles
- ✓ Attention to relevant legislative issues on State and National Level
- ✓ NCCTA funded research projects through NCSU & NCDA&CS are beneficial for success and growth.
- ✓ Local, regional, state, and national advertising
- ✓ Expanded promotional opportunities and organizational planning through Specialty Crop Block Grants obtained by the NCCTA
- ✓ Access to free retailer promotional materials provided through grant funding
- ✓ Representation at Industry Trade Shows and Consumer Shows where the Buy-Sell and Choose & Cut Memories publications are distributed.
- ✓ Use of the NCCTA logo and the NCCTA trademark design "North Carolina Fraser Fir, The Perfect Christmas Tree"
- ✓ Representation with educational and governmental organizations
- ✓ Access to experts in the field — speakers, other members, sponsors
- ✓ Provides great opportunities to meet and network with industry peers
- ✓ Reduced registration rates for annual Winter and Summer meetings where industry leaders share information and insights, and growers interact and share their individual experience.
- ✓ NCTA T.I.P. benefits
- ✓ You will be a part of North Carolina's voice for the Christmas tree industry. Whether that means presenting a Christmas tree to the Governor, meeting with legislators regarding concerns for our industry, or participating in promotional opportunities in the media, NCCTA members have visibility and a voice.



Legislative Update

Pat Gaskin



The Republicans hold a slim majority in the House, and the Senate has a slim Democrat majority. This sort of political climate makes it very difficult to get a consensus going forward. The first primary of the 2024 election season will likely be very early in the fall of 2023.

Regulatory Issues

The U.S. Environmental Protection Agency is beginning to update various labels on chemicals. It has been 15 years since EPA has collected data on many products. Without current data many of the labels our growers use will not be renewed, because EPA will cite there is no current data. This may result in a "catch 22" situation with some of our products.

U.S. Department of Labor is looking at heat issues and how it effects our workers. Under consideration are increasing the number of breaks and providing shelters in the field when the temperature rises above 80°F. National Christmas Tree Association (NCTA), American Farm Bureau Federation, (AFBF) and National Council of Agricultural Employers (NCAE), are closely monitoring and have voiced their concern to Legislators.

The U.S. Department of Agriculture continues to work on the 2023 Farm bill. If you did not see the information that Jennifer Greene sent out on April 4, please call her and ask if she will send you "Updates for NCCTA Membership" with attachments. This is an informative article on The Farm Bill and Specialty Crop Funding.

Food supplies and food security issues continue to cause concerns in the US and around the world.

Legislative Issues

On March 30, 2023, The Department of Labor (DOL) amended its regulations governing the certification of agricultural labor and services performed by H2-A workers. The adverse effect wage rate (AEWR) methodology changes published on March 30, 2023 affect all petitions filed after that date and will be used to determine the new AEWR's changes. These changes would have a negative impact on the economic well-be-

ing of rural communities all across the country. It is important to have a domestic food supply that is safe and affordable. *The US just recently became a net importer of food and the new regulation will definitely increase our reliance on imported food.*

Other changes include additional fees for workers coming in under unnamed positions as well as new Farm Labor Certification classifications for those farms that request named individuals. Another unintended consequence the new AEWR regulation is that it could add additional fees for returning workers who have been previously vetted by USCIS rather than to those of an employer who recruits new unnamed workers not previously vetted. If you have questions about this provision, I would suggest you contact your provider.

Petitions would now be limited to 25 workers per petition, with an increased fee per petition PLUS a new \$600 Asylum Fee per petition. For example, an employer who is petitioning for 100 workers under the H-2A program used to pay just \$460 for filing the I-129. Under the new proposed fee structure, employer fees would jump to \$1,130 per petition for every 25 workers—this includes the new \$530 I-129 fee plus the \$600 Asylum Fee.

According to the Dept of Labor, the Asylum Fee will be used to pay for non-immigrants including H-2A workers seeking asylum in the United States. These fees are not related in any way to the H-2A program. Many feel that this should be considered a capital expense appropriated by Congress and paid for out of the Treasury and that this fee should not be the burden of the farmer...but that's where it currently stands.

There is an effort by Congressional leaders to introduce a resolution of disapproval under the Congressional Review Act (CRA) for the recent DOL rule on the new AEWR methodology. If the CRA joint resolution of disapproval is enacted, the AEWR final rule would go out of effect immediately and "shall be treated as though such a rule had never taken effect."

Please call your North Carolina Senators and Representatives and urge them to vote in favor of the CRA

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TAKING STOCK: How resilient is our industry?

Jeff Owen
Area Extension Forestry Specialist,
Christmas Trees, NC State University

The word resilience didn't used to be part of my daily vocabulary. Probably not yours either. I hear it being used in different ways recently — often in relation to climate change and a crop or forest's ability to withstand the effects of rising temperature or extreme weather events. It can also address our ability to cope with any stress. If we are resilient, we bend in the hurricane-force winds that life sends our way rather than break. If we are resilient, a risk is less of a risk. In the heyday of strategic planning, we might have resorted to a SWOT analysis by evaluating the strengths, weaknesses, opportunities, and threats. The idea of resilience seems less static and more responsive to a changing environment.

As I think about the resilience of the NC Christmas tree industry, I can think of a long list of issues for which we could assess our health or strength. It is easy to come up with an array of concerns related to the production and marketing of Christmas trees, but the human factor might be even more critical.

The Pest & Disease Factors

Most growers will share the same list of production concerns, although priorities might shift from farm to farm. Phytophthora root rot (PRR) and Elongate Hemlock Scale (EHS)

generally battle for first place as the worst problems facing the industry over the last 15 or 20 years. "Intractable" could be a word that applies to either. On one hand, trees die and land is permanently lost to Fraser fir production. On the other hand, growers risk entire truck loads of trees being quarantined or destroyed because of the presence of scale even at barely detectable levels. Either problem could be a final straw that drives a grower out of business.

Other pests line up behind these two problems depending on the farm. These include insects and mites and diseases, but also deer and weeds. Typically, we think of phytophthora as the only important Christmas tree disease on Fraser fir, but there are a plethora of usually-minor Abies diseases that fill chapters in some diagnostic books. In some areas, deer can decimate nearly every new transplant on a farm. As glyphosate-resistant weeds become more widespread, their rapid onset becomes a summertime nightmare as treatments that worked last year fail. As an industry, we can be a single pesticide label away from impending doom or conversely a new silver bullet!

Climate and Market Factors

Climate factors add risk to Christmas tree farming at all times

of year. Tree injury can occur from desiccating winter winds, late spring freezes, droughts, extended wet seasons, and extended warm fall temperatures. Crops of stress-related cones are an expensive outcome of changing climate. Growers still shudder over thoughts of the 2002 spring freeze and its consequences. Concerns about needle retention, trunk cracks, and storage issues rise to the top as growers prepare for harvest. Last year's weather or even that of the last five years make poor predictors of the coming season.

Market concerns are seldom far from most growers' minds. Too many trees? Too few trees? Too high a price or too low... Few growers trust that they hit this year's market right on target. Each condition represents a cascading array of consequences that can have decades-long implications for a business. Implications start with unsold cut trees still in the loading yard. Market factors regularly influence what growers set in the spring and grow forward. As we saw after the recession, availability of seedlings and transplants can be influenced for years to come. Even as growers raise their own tree prices, the same individuals worry about negative influence of rising prices on future demand.



farm? What are the ambitions of a child or grandchild? Is there enough income to entice an adult child to return to the farm either full time or at his or her own retirement? Is there an air of optimism or pessimism among the leadership team?

Each farm contributes to the Christmas tree community if only in terms of supporting allied businesses. In some cases that role is much greater. There are small-scale growers who contributed years of service and leadership to county, state, and national grower associations. Others opened their farms to host dozens of collaborative research projects. Another grower guided the development of the local farm labor pool. Even the buying and selling of trees between growers has contributed to the wider success of the industry.

As growers do eventually retire or pass away, their loss is significant and felt by many in our community. This is true for even the smallest producers. However, as a handful of major farms increase in size, the loss of a single one would send a Tsunami — not just waves or ripples — across the industry. As a result, farms would be sold. Markets would be divided. Opportunities to expand would arise and would be taken advantage of. Or not. When we lose growers, there is always the risk of losing farm acreage too. To a certain extent, the scale, size, and vigor of the NC industry depends on the survival of just a few dozen large operations!

When you really think about it, there are so many threats and so many forces to be resilient to or against! Most of these trends have been a facet of our industry for decades, but optimistic growers with a “glass half-full” mentality have ana-

lyzed and problem-solved their way to success. Their positive attitude provides a foundation from which to consider new alternatives or to develop a plan to overcome risks.

At one of our marketing conferences during the Great Recession, one old timer said that in his younger days he would have hit the road with some baled trees on his truck and “let the trees sell themselves.” Of course, it took no small expense and a lot of courage to drive halfway across the country to meet managers at stores, garden centers, and roadside stands. He recognized that he was more resilient forty years earlier — and more hungry!

Planning for Resilience

With some issues, having a “plan B” may be perfectly adequate. If the supply of one herbicide is short, know which alternative can also get the job done. However, other issues

may take a greater depth of planning and preparation. If you lose land to phytophthora, you might need to be in the market for a new farm. Or you might start your own Fraser fir grafting operation to restock infected fields with grafted trees. Either strategy could add years to replenishing your inventory of newly planted trees.

To be resilient, you must have contingency plans in place. Considering the range of threats discussed in this article, that is a bunch of contingency plans! However, they represent more than just an outline or an idea — they represent overcoming obstacles. With resiliency, you are ready, whatever the future brings.

First, what is coming down the pike? What could knock me off my feet? Then, how do I overcome it? What if the problem presents itself differently this time around? What steps are involved? How do I flesh out this plan? Who does what? How

do I hit the ground running?

Asking these questions is a way to build resilience — working on contingencies and developing a plan for what might be.

As farmers, Extension support staff, and members of associations, we strategize about production and marketing issues. That’s what farmers do. We need to also consider the human element and keep our ideas fresh. For so long, growers kept their heads down and just grew trees. Many avoided the spotlight in fear that we would attract new growers and increase competition. Well, times change. We don’t just need workers and tractor drivers, we also need farm managers and farm owners. We need new innovators, new entrepreneurs. We need a healthy vibrant community. Resilience and optimism are the traits that will carry us forward on individual farms and as national leaders of this industry. 🌲

The Human Factor

Even in the face of all these risks, the human factor might be even more critical to how resilient a farm business is. That certainly includes labor and all it entails, but also the well-being of the business owner, his or her family, and any middle management that might contribute to a farm’s success. We have seen the number of Christmas tree farms decline from more than 3,200 in the 1980’s to less than

900 by 2017. At one time there were more than 900 growers just in Avery County! Labor factors include having enough field workers or wreath makers to do the job, enough tractor drivers or van drivers, or even continued access to after-hours moonlighting by a neighbor’s workforce.

Just as important, how is the boss’s health? How healthy is the marriage at the heart of the family

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Reforestation, conservation and propagation of Forest Conifers and Christmas Trees



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Let's imagine a Christmas tree farmer in western North Carolina, located within the heart of the Blue Ridge Mountains, looking over acres of next season's Fraser fir (*Abies fraseri*) ready to provide joy and holiday memories to family households around the country. Now — imagine a forester working with the US Forest Service (USFS) hiking through Yosemite National Park located within the Sierra Nevada Mountain range evaluating a stand of majestic sugar pine (*Pinus lambertiana*) trees. These people may be three times zones apart, but they face a similar issue — a devastating disease exacerbated by a changing climate is constantly threatening the long-term survival of these slow-growing, forest guardians.

A warmer climate leads to a cascade of threats to tree populations around the world. For instance, accelerated climate change favors the rapid proliferation of disease causal agents (i.e. pathogens). Drought stress makes trees more susceptible to attack by pests and pathogens. As trees die on the landscape, they serve as the perfect fuel for wildfires further threatening these species in the wild. Conifers are slow growing organisms and cannot keep pace with rapid environmental changes and are unable to quickly adapt to new threats. Therefore, scientists must act to preserve and conserve these species for future generations.

Sugar pine and Fraser fir are distant cousins, both belonging to the taxonomic family called the Pinaceae. Members of the Pinaceae consist of the most economically and ecologically important conifer species around the world which include spruce (*Picea* spp.), pine (*Pinus* spp.) and fir (*Abies* spp.). While these two trees will likely never meet in nature, they now officially cohabitate inside growth chambers located within the Whitehill laboratory Christmas Tree Genetics (CTG) program at North Carolina State University department of Forestry



Figure 1. An acclimatized sugar pine. A sugar pine tree is acclimating to soil and the open environment in a growth chamber located at NC State University in the Whitehill CTG laboratory. This tree was initially grown from seed in a petri dish before eventually being transferred to soil. Plants in tissue culture often require a slow acclimatization process to soil after being moved from the humid, safe environment of a Petri dish. This step in the process is often the most challenging as conifer trees struggle with this transition.

and Environmental Resources. Each species is important in its own right but face unique yet similar challenges.

Sugar Pine (*Pinus lambertiana*), King of the Conifers

Naturalist John Muir considered the sugar pine to be the “King of the Conifers”. He coined this phrase not only because of the tree's majestic size and beauty, but also because he preferred the tree's “sweet resin” to maple syrup. Like maple and birch, sugar pine sap can be boiled down to produce a sweet syrup. The use of sugar pine syrup was well known by the indigenous peoples that lived alongside these giants who passed this knowledge on to the frontiersman that eventually settled in these adjacent areas.

Sugar pine is a species of pine tree native to the western United States (Figure 1). The species is known

for its large size and high-quality wood. Sugar pine can grow up to 230 feet tall, making it the tallest and largest species of pine tree in the world. Sugar pine is best known for its large cones, which can grow up to 20 inches in length. The cones are a distinctive feature of the tree and highly sought after by wildlife, such as squirrels and jays (Figure 2).



Figure 2. Sugar pine cone. The cones of sugar pine are some of the largest amongst all conifers. Here we show a mature sugar pine cone next to a ruler and pen for scale.

One of the primary uses for sugar pine is in the production of high-quality lumber. Sugar pine wood is soft, lightweight, and has a fine texture. These characteristics make it ideal for a variety of applications, including furniture, flooring, millwork, and a popular choice for construction due to its strength and stability. Sugar pine is also used for the production of pine nuts, which are a popular ingredient in many cuisines around the world. Pine nuts are high in protein, contain healthy fats and are used in a variety of dishes ranging from pesto to baked goods.

Despite its many uses, sugar pine populations have declined in recent years due to a combination of factors, including excessive logging, fire suppression, and climate change. Habitat destruction is a major threat to sugar pine, as much of its natural range has been logged or otherwise altered over time due to urbanization, agriculture, and other land-use changes. The repeated removal of trees from the forest has reduced the overall number of individuals and overall health of the population. Reduction in suitable habitat available to the species combined with isolated remaining populations has made sugar pine more vulnerable to other threats. The species is now considered to be at risk, and efforts are underway to conserve and protect remaining sugar pine genetic resources.

However, the biggest concern for sugar pine (and many coniferous species around the world) relates to the looming threat of non-native pests and disease in a changing climate. Unfortunately, sugar pine is already battling a serious disease challenge. The good news is that there is a genetic solution to help the species survive in this battle.

White pine blister rust (WPBR; *Cronartium ribicola*), The King Slayer

White pine blister rust (WPBR; *Cronartium ribicola*) is a fungal pathogen that affects five-needle pine trees, including eastern white pine (*Pinus strobus*) — one of the most valuable and widespread tree species in North America. The rust fungus causes a disease that infects the needles and causes widespread damage to the tree, reducing its growth and vigor, and often leading to its death. It's called a 'rust' fungus because the pathogen is most commonly observed as deposits of powdery rust-colored or brown spores on plant surfaces.

WPBR likely originated in Asia and is thought to have been introduced to North America through the importation of infected plant materials in the early 20th century. Spores of the pathogen are spread by wind that then infect new hosts through small wounds in the bark. The disease is particularly devastating to five-needled pines, which are highly susceptible and often die within a few years of becoming infected. The disease is also highly contagious and can spread rapidly through an infected forest, causing widespread damage and mortality.

The best and most effective way to manage this disease in a forest setting is through deployment of genetically resistant trees. The USFS has been working to develop elite, resistant sugar pine trees for decades. Out of the tens of thousands of trees that have been tested, only a small handful of individuals carry the genetic resistance required to adequately combat this devastating disease. These trees have been planted into seed orchards. However, conifers take decades to grow and produce offspring. Groups of these trees are now producing viable offspring. Unfortunately, the main challenge facing these forest giants is the deployment of these elite genetics across the landscape. While offspring of WPBR resistant trees are available, they are not produced in high enough quantities to meet the large numbers required for reforestation. Therefore, an alternative strategy is needed to meet the increasing demand of genetically improved sugar pine.



Figure 3. Fraser fir at NC State. The Whitehill CTG lab poses for a picture with a 15-foot Fraser fir displayed in the entrance of the brand new Plant Sciences Building in December 2022. The Fraser fir was provided by Dr. Earl Deal and Smokey Holler Tree Farm, LLC. The tree served as the ambassador for the species this past holiday season on the NC State University campus.

Fraser fir (*Abies fraseri*), The Perfect Christmas Tree

On the other side of the country, the largest production region of Fraser fir Christmas trees in the U.S. can be found within small rural communities located in the Southern Appalachian Mountains of North Carolina. Fraser fir is the premier Christmas tree in the U.S. and represents ~38% of all species sold throughout the country (Figure 3). Fraser fir is known as the 'Perfect Christmas Tree' due to its elite combination of traits including superior post-harvest needle retention, soft needles, long lasting festive aroma, and strong branches to hold ornaments. Nationally, the value of real Christmas trees in the U.S. exceeds \$2.5 billion annually. Fraser fir Christmas trees fetch a higher price than other species and therefore represent ~50% of total annual sales.

Despite its popularity, Fraser fir is an endangered species within its native range. Fraser fir's popularity has grown exponentially in recent years, however, interest in this tree really started after the introduction of a non-native pest called the balsam woolly adelgid (*Adelges piceae*) devastated the natural range of tree. In nature, the species is only found inhabiting the Southern Appalachian Mountains in the US, and represents a very small, isolat-

ed population. In fact, only six very small island-like populations occur at the peaks of the tallest mountains within this region. When NC Christmas tree growers began harvesting Fraser fir trees and collecting and propagating the seeds of this species, they were not only building interest for the most popular Christmas tree in the country, but they were also pioneers of genetic conservation efforts for this species.

To help protect and conserve the Fraser fir, many Christmas tree farmers practice sustainable harvesting and replanting programs, and conservation organizations are working to restore and protect its native habitat. In addition, research is ongoing to develop methods for controlling the pests and diseases that are affecting the species and to identify ways to promote its resilience and survival in the face of these threats. Specifically, the NC State University Christmas Tree Genetics program is working to prepare this species for current and future challenges through genetic improvement efforts. However, just as sugar pine is being threatened by a devastating disease in a changing climate, so too is the Fraser fir.

Phytophthora root rot (PRR; *Phytophthora cinnamomi*), The Perfect Christmas Tree Killer

PRR is caused by the oomycete pathogen *Phytophthora cinnamomi*. An oomycete is a water-mold (not a fungus) that is most closely related to brown algae. PRR is the most significant and damaging biotic threat to Fraser fir production (Figure 4). The pathogen kills 100% of the trees that it infects. Losses from PRR in NC are estimated at around 9% (2014) of the production in a given field, or ~\$11 million based on a \$125 million industry. Recent evaluations indicate this estimate has likely increased significantly in recent years



Figure 4. The perfect Christmas tree killer. A red, now dead Fraser fir peeks out from behind its surviving siblings after succumbing to *Phytophthora* root rot disease.

due to accelerated climate change and a rapidly evolving economic landscape. The diversity of *Phytophthora* spp. has increased within Christmas tree plantations in the Southern Appalachians to six different species of the pathogen being identified in a limited regional survey conducted in 2014. These results were striking considering only one species (*P. cinnamomi*) had been identified previously in the region. The threat of accelerated climate change and the increasing pressure of this disease is driving a need for innovative solutions to ensure this species can be enjoyed for generations to come.

Tissue Culture & Somatic Embryogenesis (SE) of Conifers

To tackle the challenges facing Christmas tree growers and foresters alike and develop solutions to the challenges these species face, the CTG team at NC State is working to develop new genetic tools that will help sugar pine and Fraser fir adapt to future environments. These tools focus on the use of a tissue culture technique known as **Somatic Embryogenesis (SE)**. SE allows scientists to preserve valuable genetic materials through the isolation of a single embryo from a seed. The isolated embryo (i.e. baby tree) is placed onto a special mixture of hormones which will lead to the initiation of an infinite number of somatic embryos (Figure 5). These artificially induced ‘baby trees’ are clones of the original seed and can be propagated *ad infinitum* or cryopreserved in an ultracold freezer or liquid nitrogen to save these important materials long-term (Figure 6). At any time, these materials can be used to grow full size trees for Christmas tree production or reforestation (Figure 7). SE embryos can also be used for genetic improvement applications.

Ultimately, the goal is to develop and propagate trees that have elite genetics quickly. Rapid propagation of conifers in the Pinaceae are often slow and difficult. Producing enough elite trees that can survive diseases like PRR and WPBR is often limited by the tree’s natural biology. SE is a way to produce large numbers of genetically improved trees in a relatively short period of time compared to establishing a seed orchard which can take 20-30 years. It is also useful for producing genetically uniform plant material for research or commercial purposes, as well as for producing plants from endangered or rare species.



Figure 5. Fraser fir somatic embryos. A single somatic embryo (SE) of Fraser fir (circled in red) is grown next to a clump of hundreds of individual baby trees. This image represents a whole forest of Christmas trees grown in the palm of your hand. The shoot and root of the baby tree can be seen in the outlined image.



Figure 6. Sugar pine in culture. A cluster of sugar pine somatic embryos (SE) are being propagated on a Petri dish.



Figure 7. Sugar pine root initiation. Before somatic embryogenic (SE) trees can move to soil, they first must start to produce a robust root system. In this image, the shoots have initiated, but root production is still in process.

A potential short-term genetic solution to PRR using momi fir SE

Commonly known as momi fir (*A. firma*) in its native range of Japan and Taiwan, this species has become synonymous with a ray of hope for the future of genetic management for PRR resistance in Fraser fir. Besides the promise this species holds for future genetic improvement of Fraser fir against PRR, momi fir has significant historical and cultural value in its native range of Japan. For instance, this species has been used for various purposes since ancient times including the construction of temples, shrines, and houses. Momi fir wood was even used to make the pillars and beams of the Japanese imperial palace which was completed in 1968 — a strong testament to its strength and durability. Additionally, momi fir is valued for its resin which is used as incense, medicine, and even waterproofing roofs. According to Japanese folklore, momi fir is believed to have mystical properties and is often associated with the Shinto god of the mountains. Momi fir remains an important symbol of Japan’s natural beauty and heritage.

In North Carolina, momi fir has gained fame amongst the Christmas tree industry because unlike Fraser, it is unaffected by PRR. One well-known management tool for PRR is to graft Fraser fir scion onto resistant momi fir rootstock.* The resulting Fraser fir grafted onto momi fir results in a single tree that retains all the characteristics of Fraser fir but a root system that is 100% resistant to PRR. The use of grafting as a means to asexually propagate Fraser fir requires skill, time, and availability of both momi rootstock and Fraser scion materials which are both derived from seed. While grafting is an effective management tool, its use is often restricted because of associated costs and difficulty obtaining momi rootstock. Additionally, due to the national importance of momi fir in Japan, exportation of seed from this species to other countries is extremely difficult. Efforts to establish a reliable source of momi fir seed for the North Carolina Christmas tree industry through seed orchards are currently underway. However, productivity of these resources are likely 10-15 years away from commercial viability. Various seed suppliers around the country have some materials available for use but are in short supply for the whole industry due to increasing demand for this species. Therefore, an alternative to producing momi fir trees from seed is desperately needed.

Recently, the NC State University Christmas Tree Genetics program has developed several SE lines of momi fir. Of these lines, one has responded extremely well to tissue culture techniques (Figure 8). This line grows quickly and produces copious amounts of baby trees (i.e. somatic embryos) in culture. CTG lab tissue culture specialist Yannick Favre is currently working to develop methods that will allow for large-scale propagation of this line. The goal of this effort is to scale up SE production of momi fir through tissue culture and develop a commercially viable process to enable mass production of this species. The best approach for mass production of SE lines is through the use of liquid tissue culture media (Figure 9). These efforts are ongoing and rapidly evolving. To meet industry needs will require development of partnerships with existing horticultural companies that can help produce enough materials on an annual basis to meet industry demand.



Figure 8. Momi fir somatic embryos. Momi fir embryos grow as a clump of hundreds of individual baby trees. This image represents a whole forest of momi fir trees grown in the palm of your hand.



Figure 9. Momi fir somatic embryos in liquid culture. Using liquid culture to grow SE trees is ideal as it can be more easily handled for commercial purposes. Here we see a happy culture of momi fir trees in liquid medium.

Future Research Directions

The NCSU CTG lab is applying its expertise in conifer SE to conserve and rapidly propagate elite genetics of sugar pine, Fraser fir and momi fir. One of the biggest bottlenecks in the genetic improvement process for conifers is the production of next generation materials. The collaboration between the USFS and the Whitehill laboratory Christmas Tree Genetics program at North Carolina State University is only in its infancy. However, the scientists at NCSU have already been able to generate somatic embryos for several lines of sugar pine, Fraser fir, and momi fir. In summer 2023 more cones from these species will be collected and evaluated for use in SE. Multiple genetic lines will then enter the tissue culture process. CTG will continue to maintain and progress these elite genetic materials through the SE process to accommodate reforestation efforts of disease resistant trees and propagation of economically important fir species. However, propagation of a Fraser fir resistant to the PRR disease will take time. Current efforts in the Whitehill CTG lab are focused on understanding how momi fir trees resist infection while Fraser fir succumbs to the disease. Once this process is better understood, the development of a standalone genetically improved Fraser fir

Christmas tree will be carried out using an SE pipeline to ensure rapid propagation of this important genetic material. Ultimately, many coniferous species are facing an uncertain future due to the challenges associated with accelerated climate change. To meet these challenges requires that science comes to the rescue. 🌲

** On March 13th, 2023 the US Christmas tree industry lost one of its pioneers. According to University of Georgia Associate Professor Dr. Mark Czarnota, Dr. [Robert "Earl" Worthington](#) "was instrumental in pushing the use of momi fir (*Abies firma*) as a cut Christmas tree/ornamental and its use to develop Phytophthora resistant hybrid firs." Dr. Worthington pioneered the use of momi fir as a grafting rootstock to manage PRR. Dr. Worthington used momi fir rootstock to cultivate many different fir species on his choose & cut farm located in Hampton, GA (Figure 10 & Figure 11). Dr. Justin Whitehill met with Dr. Worthington at his home in November 2022 to discuss his contributions to the industry and learn about the history of momi fir as a management tool for PRR. They kept in contact until his passing. Dr. Czarnota carries on Earl's research interests and legacy at UGA. Earl was a graduate of NC State University where he obtained his masters degree in biochemistry in 1955.*



Figure 10. Canaan fir grafted on momi fir rootstock growing near Hampton, GA at Worthington Tree Farm in November 2022.



Figure 11. Concolor fir grafted on momi fir rootstock growing near Hampton, GA at Worthington Tree Farm in November 2022.

Join us for the MCTA Summer meeting at Needleafast Evergreen Inc., a 3rd generation farm located in Ludington, just a few miles from the beautiful shores of Lake Michigan. Attendees will get a behind the scenes look at both their nursery and field grown Christmas tree operations. Needleafast's nursery operations provide an opportunity for Christmas tree growers to learn what goes on 'under the hood' to produce those baby trees that start your plantations. A unique bonus will include touring Needleafast's u-pick strawberry production area.

Field tours during the meeting will include Needleafast production areas and Michigan State University educational sessions including:

- Improve sprayer effectiveness through proper calibration
- Viewing the newest technology for irrigation scheduling
- Get a leg up on pest through a summer scouting program
- Updates on deer repellents
- Learn the in's and out's of Mycorrhizae

www.mcta.org
for registration and hotel information.

SCOUTING FOR NEW TOOLS



Travis Birdsell
County Extension Director and
Extension Agent, Agriculture

Brad Edwards
Program Assistant and
IPM

Blake Williams
Program Assistant,
Agriculture

Throughout this past spring we were contacted about recommendations for spring insect treatments. In one case, we talked through balsam twig aphid. The grower followed up by saying they were going to add Envirdor because they had mite damage last year. I asked if they had seen any signs of mites this year. After they answered “no,” a field visit was scheduled to scout for mites. Scouting revealed that there were no mites present. Some of these mites are the smallest pests we look for in trees, and we recognize that staying on top of them can be a real challenge — even if you have 20/20 vision. While a hand lens is still our primary tool in the middle of a tree patch, we wanted to share a new scouting tool with you that can make pest ID and scouting much easier. We used it in the field so the grower could see exactly what I wasn’t seeing.

A New Scouting Tool...

To assist us in ‘seeing what we can’t see,’ we in Extension (and several growers) have adopted the use of a portable digital microscope that is powered by a USB port (just like a phone charger). It can be carried easily in a truck and be used for field sampling right on the hood of the truck. This microscope has a 3 ½” x 6” digital display screen that makes viewing samples extremely easy. It has an SD card slot to save images of samples to

easy cataloging or sharing with Extension personnel to help identify samples. This has really improved scouting efficiency. We do recommend getting a model that has two supplemental lights (see photo). The model that we have been field testing is the Adonostar AD206S, which retails on Amazon for approximately \$170.00. There are other brands out there that would work just as well, but this just happens to be the one we have used over the past year. You will also want to have a portable battery charger to make the microscope truly mobile. We use an Anker PowerCore III 20K mAh USB-C portable battery charger.

Brad Edwards gives it two thumbs up! While it has survived in the back seat of his pickup for the past year, we would recommend purchasing a large camera case for safe storage (although you can put it back into the box in which it was shipped). Also, we use q-tips and rubbing alcohol to clean any of the lenses to prevent scratching from other materials.

The best recommendations for controlling pests start with accurate scouting. If you don’t know what is in your field then how do you know if you should treat, when you should treat, or what products would be the best choices. Without knowing what pests you have, it is impossible to know if, when, or with what you need to treat. Observa-



tion of pests in the field should be the primary driver of pest control. When growers invest in effective field scouting they may find more pests and need to spend more money on pest management or they might find that there are fewer pests in their fields than they thought and actually save money. Either way, knowledge is power!

Good scouting tools can make all the difference in a successful field experience, so we wanted to share this tool that improved our scouting efficiency that growers can use to make their own scouting observations easier.

If you have questions or would like more information please feel free to contact the Ashe Cooperative Extension office at 336-846-5850.



A Refresher on Scouting...

Scouting is the regular, systematic, and repeated sampling of pests in the field in order to estimate the presence of a pest and their population levels. Scouting is geared towards the major pest problems and is modified by weather that favors particular pests. In order for scouting to happen, you have to make time for it, just like you would for any other production practice. As you get more familiar with each field and learn where pest problems are found, scouting should take less and less of your time.

For Fraser fir Christmas trees, the purpose of scouting is to determine if certain pests such as elongate hemlock scale, cryptomeria scale, balsam woolly adelgid, or rosette bud mites are present in the field. Once you know these pests are present, scouting can help you determine if enough trees are affected to warrant an insecticide application. For other pests which reproduce and spread more quickly such as twig aphids, Cinnara aphids, spider mites and rust mites, scouting is needed to keep track of numbers so that the population doesn’t build to a level where it causes economic damage. While scouting, you not only find the pests but also natural predators which should be factored into the decision whether or not to treat. Once a pesticide has been applied, scouting is used to determine how well treatments worked.

Scouting is also important for ground cover management. Fields need to be thoroughly scouted to determine the presence of hard to control weeds, especially around field edges where such problems can get a foothold. Field observations of weed growth and regrowth are also important for timing of chemical suppression.

from “Scouting—The Steering Wheel” by Dr. Jill Sidebottom and can be found at <https://christmas-trees.ces.ncsu.edu/scouting-the-steering-wheel/>



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Labor Needs of North Carolina Christmas Tree Growers



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North Carolina ranks second in the production of natural Christmas trees in the United States. For this reason, the Christmas tree industry is very important for the rural economies in the state where trees are grown. While the sector has been growing steadily thanks to high demand for trees, it is experiencing major labor challenges that could limit the industry's potential. One of the main difficulties that growers have been facing in the last three decades is a reduction in farm labor availability. Although this problem is well known among producers, the general public and policymakers are not as aware of the severity of labor scarcity. To better understand the labor needs and the associated costs of hiring workers of different kinds, I conducted a pilot survey of Christmas tree growers. The project was generously supported by the North Carolina Christmas Tree Association (NCCTA). A questionnaire was distributed in person and online at

the end of 2021 and beginning of 2022. The survey covered growers in the western part of North Carolina. All responses were anonymously provided.

The survey's focus was to collect data about grower characteristics, labor needs, worker characteristics, and the impact of labor shortages on production, costs, and the industry in general. Since the main goal of the study was to obtain in-depth responses about these complex issues, the questionnaire asked many open-ended questions. Twenty-eight responses were received, which provided rich and detailed information about the Christmas tree industry and its labor needs.

Survey Respondents

The 28 respondents were all members of the North Carolina Christmas Tree Association and were farming

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in Watauga, Ashe, or Alleghany counties with farm sizes ranging from 20 to 2,000 acres. 89% of those surveyed indicated that growing trees was their full-time job, and almost half of the respondents also grow other products including cattle, ornamentals, and field crops. Out of those who responded to the survey, producers ranged in age from 36 to 81 years old with an average age of 60.

Recruiting Challenges, Seasonal Needs, and Labor Costs

Nearly all growers reported that they have experienced difficulties finding workers. On average, 84% of hired workers are foreign-born (including H-2A workers from Latin America), but there is a lot of variation. There are farmers who do not hire any such workers, but others reported that they only have foreign-born workers. The fall harvest was stated as the most difficult season for recruiting workers. While growers reported that spring and summer labor needs ranged from 7-40 workers, fall season needs, primarily for harvest, ranged from 21-100 workers. However, despite challenges finding labor, growers reported being able to get the number of workers they needed for their respective operations.

To further understand the challenges and implications of efforts to recruit, acquire, and retain labor, respondents were asked to indicate the realized and potential consequences resulting from existing labor shortages. The survey revealed that 61% of growers have faced limitations to increase the size of their business and over 2/3 indicated that they have lost production, while almost half have had to scale down production or start growing other crops.

The cost of labor was reported as the main production expense for almost 80% of surveyed growers. While other costs include fertilizers, pesticides, and equipment, labor represented, on average, 50% of total costs with a range from 15% to 80%. All respondents indicated labor costs went up in the last three years, with an average hourly pay of \$14 in 2021-2022. However, some growers pay workers differently based on their skill sets and experience, how long they have been with the farm, and the type of job (for example, managers/crew leaders get paid more), while others pay the same adverse effect wage rate to all workers. Other costs for labor include transportation, housing, health care, workers compensation insurance, and legal fees. Of the growers surveyed, all but two have found workers by relying on the

services of independent labor recruitment contractors (like the North Carolina Growers Association) which charge a fee for their contract services on top of the required fees to obtain workers via the H-2A guestworker program. Growers pay, on average, over \$1,000 to acquire each H-2A worker.

Worker Characteristics

Respondents were asked to provide, to the best of their knowledge, some information regarding the characteristics of the workers they hire. The average grower-reported age of their workforce was 32.5 years old. While the majority of the workforce is male, between 20-24% of the workforce is female. Many growers also see the same workers return to their farms over multiple years, with some growers reporting having the same individuals working on their farm every year.

All respondents except one indicated that they provide in-person or video training and communication either sometimes or constantly on tasks and themes like shearing and pruning techniques, fertilization, safe spraying and pesticide use, chainsaw use, tractor operation, heat stress, and enrollment in programs offered through Cooperative Extension, among others. All described their relationship with workers as either very good or excellent with only one person who stated: *“I do not interact with my workers a lot.”* Half of respondents said they sometimes have language difficulties; two said *“Never, I am fluent in Spanish (or their native language)”*; five people said rarely. Around 1/3 of growers surveyed said that their workers have an intermediate level of English, while another 1/3 said that their workers don’t speak English at all.

In addition, growers were asked several questions regarding their thoughts on foreign-born versus domestic ‘American’ workers. The perceived value of the Hispanic workforce was consistently reflected in the survey responses. All growers except one reported that they hire Hispanic workers regularly. Some reasons why included: *“They are very dependable, hardworking, and trustworthy”* and *“Without H-2A workers we would be out of business”* and *“They want to work, show up on time, they work hard. Work in bad weather conditions”* and *“Other nationalities do not stay once hired. Work is too labor intensive.”*

In addition to Hispanic workers, most growers (57%) also hire American workers. When asked why, some responses included:

- “When available and they want to work we use all we can”
- “Need English-speaking people”
- “Yes, they understand the language, management and regulations”
- “Language and have skills that H-2A workers do not have”
- “Only Hispanic people will do volume farm work. Need some college and high school students to run my choose and cut operation”
- “To give young people a chance, part time, have to due to H-2A contract”

Over 50% of growers surveyed indicated that they believed foreign-born workers were more productive than native-born workers, while 39% believed that it depended on the job. When asked why growers would not/were not hiring local workers, the responses overwhelmingly reflected the sentiment that *“locals don’t want to work in agriculture”* due to the physically demanding elements of the job, the language barrier with other workers on the crew, or general “unreliability.”

Responses to Labor Challenges

To address and cope with challenges related to shortages in the labor market, growers indicated that they are implementing a wide range of strategies. 68% of the survey respondents indicated that they have taken steps to retain workers including: creating opportunities for advancement, providing more leeway for days off, and organizing social gatherings like cookouts. Additionally, while some growers reported that they are increasing wages, others are offering additional benefits and/or performance bonuses. Some growers who traditionally recruited their own workforce locally have resorted to hiring labor contractors to take over and/or supplement recruitment.

Despite the challenges of increased labor costs and recruitment, investment in technology or other mechanization alternatives to improve efficiency on farms has not increased, overall. Over half of the survey respondents said that they had not invested in labor-saving technologies in the last two years, and half of the growers were not planning on investing in the near future. Reasons for the lack of investment included that: 1) growers are getting older and /or moving towards retirement; 2) there were/are no mechanization options available to improve labor efficiency; or 3) current staffing was suitable.

The stated implications of the enduring issues related to labor shortages and availability were also addressed in the survey. Growers were asked the following two questions related to potential solutions to the labor problem and the outlook for the Christmas tree industry in the future if nothing is done:

1) *What do you think could and should be done to increase the availability of workers in the fields?*

2) *If the problem of labor scarcity is not resolved, what do you think will happen to your business and the Christmas tree industry?*

Common answers included eliminating welfare and/or unemployment for Americans, improving the migrant labor/H-2A program by reducing fees, less strict wage requirements and regulations that have made the process complicated and/or too costly, and expanding the H-2A program to make more work visas available.

Growers were pessimistic in their assessment of the potential future impact on the industry if improvements aren’t made in the H-2A program and issues with labor markets are not addressed. The majority indicated that the industry would see an overall decrease in Christmas tree farming...i.e. *“No workers—no trees.”*

In summary, North Carolina Christmas tree growers have been facing major challenges finding workers. This has led to an increased reliance on the H-2A program that allows them to bring foreign agricultural workers. While the program continues to grow, tree farmers have indicated that its costs (both financial and administrative) are a limitation that needs to be addressed. Unlike other agricultural industries, automation alternatives are not readily available to Christmas tree producers, which poses the risk of forcing them out of the tree business if labor shortages are not dealt with. At the same time, growers have begun taking actions to recruit and retain existing workers, as well as use their creativity to continue growing trees by adapting to current challenges. Although not directly asked in the survey, conversations with growers suggest that there are reasons to remain optimistic, like the strong and growing demand for Fraser fir trees grown in the state. 🌲

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Christmas Tree Seed Center of Excellence

In October 2022, the North Carolina Tobacco Trust Fund announced the funding of the project titled, “**Certified NC Christmas Tree Seed**” in the amount of \$383,685.00 that will provide funds to the Upper Mountain Research Station to build a seed processing facility. The facility will process seed from elite seed orchards developed by the NC State University Christmas Tree Genetics program in collaboration with the NCDA&CS Research Stations Division.

This will provide a new building at Upper Mountain which will enable the movement of the breeding program from Raleigh to Laurel Springs. Also, this will make Up-

per Mountain a “turnkey” Christmas Tree Research Center allowing us to conduct research on trees from start to finish; (seed, nursery stock, field trees, as well as post-harvest quality research). This will be a major step in the future of Christmas trees and Christmas tree research.

The project proposal was submitted to the North Carolina Tobacco Trust Fund Commission by Tracy Taylor, superintendent of the Upper Mountain Research Station and Teresa Lambert, Director of the Research Stations Division with NCDA&CS, in collaboration with Dr. Justin Whitehill, Angela Chiang, Jeff Owen and Travis Birdsell.



“This facility will allow us to make some of the best Christmas tree genetics in the world available to NC Christmas tree producers. We are proud to work with our partners in the Christmas tree industry as well as NCSU to keep North Carolina the leader in Christmas tree quality and production.”

— Tracy Taylor



“We are excited for this opportunity and look forward to many more years of productive collaboration and a successful partnership with the NCDA. Ultimately, we are excited to have the opportunity to provide elite Fraser fir (and other important species) genetics directly to NC Christmas Tree Growers!”

— Dr. Justin Whitehill



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Media Magic for the RCTB

For the former Christmas Tree Promotion Board, 2022 represented a fresh start with the consolidation of all PR and advertising under one agency roof ... as well as a fresh approach to the consumer campaign and to the organization itself ... which ultimately resulted in fresh success, including unprecedented results in media relations.

The year kicked off with the rebranding of the organization as “The Real Christmas Tree Board.” The new name came with a new logo, and both were designed to reduce confusion among the media and sharpen focus on the Board as *the* go-to authority on real Christmas trees.

Pre-season outreach to media in July announced the change, teased new research findings, and explicitly asked media to contact the RCTB throughout the holidays. Combined with search-engine marketing to make it easier for journalists to find an expert and ongoing in-season efforts, the new positioning and early contact yielded better than a 400% increase in unsolicited media inquiries compared to 2021!

The RCTB also saw a 230%+ increase in visits to the website newsroom compared to 2021.

But the year would come with hurdles. Knowing inflation would be THE story of the season, your agency team recommended RCTB get in front of the story and influence it rather than let it simply “happen to us.”

We used data from a market outlook survey of the largest Christmas tree producers combined with our newest consumer research to frame our story early so other voices wouldn’t control the narrative.

The strategy worked. RCTB became the go-to source for media across the country with relevant, credible, and useful data from real Christmas tree growers.

The result? More than 1,000 media placements and 1.4 billion impressions using RCTB data.

For the most part, the media either simply reported our data or — better yet — included a panic-free view of the market that was sympathetic to growers and relayed that buyers of real Christmas trees think they’re “worth it” despite expected price increases.



The year also brought an overhaul of the consumer campaign. With the debut of “Joy to the Real,” the Board focused on the emotional impact of real Christmas trees — joy — as it happens ... from deciding where to buy to flipping the switch on the lights and breathing in that scent.

This “perfectly imperfect” journey to real Christmas tree joy was showcased through real-life videos from real-life, real tree fans. In addition to the main video, nearly 75 new creative assets were delivered across a range of digital media, resulting in 18.2 million paid media impressions.

An overhauled website at RealChristmasTreeBoard.com was supported by paid search engine marketing, or “SEM,” during our fourth quarter push. SEM is designed to deliver your site as a sponsored result when people search on relevant terms, such as “Christmas tree.”

The Real Christmas Tree Board delivered a steady flow of “Joy to the Real” messages all season long, not only through advertising, but also through media outreach about our consumer survey results ... and through partnerships with influencers who shared *their* real Christmas tree stories ... and with a satellite media tour that took spokespeople from television station to television station coast-to-coast ... and via a whimsical infographic that focused on brand new data about the popularity of the scent of real Christmas trees ... and with a late-season press release designed to reassure Christmas Eve Traditionalists, Mid-Decemberists, and Treecrastinators and ... more!

All told, this fresh start with a fresh approach delivered a record 2.3 **BILLION** IMPRESSIONS

But most importantly, the Board’s authority star is rising. Our positive messages dominated the season’s coverage. And all those great campaign assets are already set to work hard for you next season as well. 🌲

OH THAT? THAT’S THE SMELL OF JOY.

SURVEY¹ SAYS IT’S ALL ABOUT THE REAL-TREE SCENT.

JOY TO THE REAL

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- @RealChristmasTreeBoard
- @RealChristmasTreeBoard
- @RealTreeBoard
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Visit RealChristmasTreeBoard.com for a special retail locator, a guide to the different kinds of real Christmas trees, tree care tips, and more.

¹ ABOUT THE 2022 SURVEY: TRUE Global Intelligence (TGI), the in-house research practice of FleishmanHillard, fielded a survey of 1,500 American adults ages 21 to 49 years. All survey respondents celebrate or observe Christmas and either decide or share in the decision of whether and what kind of Christmas tree to put up in their home each year or influence their home’s decisionmaker. The survey was fielded from May 26 to June 13, 2022. The survey has a margin of error of ±2.5% and higher for subgroups.

THE NO. 1 REASON TO GO REAL? THE SCENT!

“I like the scent” is the No. 1 reason respondents identified for why they chose a real Christmas tree in 2021, pulling ahead of other fine reasons such as “tradition,” “it’s fun going to get the tree,” and “my kids like it.”



SMELLS LIKE ...? 81% SAID, “CHRISTMAS ITSELF”



4 out of 5 respondents said it was the unmistakable smell of Christmas itself that rose to the top and 80% described the smell of a real Christmas tree as “soothing.”

BUT OF ALL THE GREAT CHRISTMAS SMELLS — YEAH, IT’S REAL TREE AGAIN.

Survey-takers were asked to rank a list of scents strongly associated with Christmas and promptly picked the scent of a real Christmas tree as their favorite. “Cookies” came in second, followed by “cinnamon,” “hot cocoa,” and “gingerbread” (in that order). “Peppermint” ranked 6th but beat out further-down finishers “open fire,” and “roasted chestnuts.”



HOW DOES THAT MAKE YOU FEEL?

Respondents were asked to pick a word to finish the sentence “When I smell a real Christmas tree, I feel” “Joyful” was the word picked more often than any other emotion. Other good feelings followed. Namely (in order): “Merry,” “nostalgic,” “calm,” and “thankful.”



2022 Trees for Troops

The 18th consecutive year of Trees for Troops brought more than 1,000 heart-warming memories from North Carolina growers alone to service member families this past fall, as FedEx delivered a total of more than 16,000 fresh cut Christmas trees donated at 54 locations around the nation to 84 military bases across 5 branches of service in the US. North Carolina growers donated more than expected at a time with strong marketplace demand, allowing families to enjoy a merrier Christmas with the gift of a real tree. The Upper Mountain Research Station in Laurel Springs and the Avery County Cooperative Extension in Newland hosted



the loading events again this year. NC growers donated 1,049 trees, as well as some greenery, to service families stationed at four military bases. We could not have done it without the help of these two loading stations and their staff, including Avery County

Director Jerry Moody and the Upper Mountain Research Station Superintendent Tracy Taylor. Additional thanks to all the county coordinators, loading coordinators, area students and teachers, and those who volunteered their time and resources. 🌲

Upper Mountain Research Station

Goal: **350** Final Destinations: Ft. Bragg, NC, NAS Meridian, MS Donated: **649**

Avery Cooperative Extension

Goal: **225** Final Destination: Ft. Stewart, GA, and Hunter Army Airfield, GA Donated: **400**

US Grand Total (18-YEAR TOTAL: 293,392)

16,391 Trees were donated and sent to US military bases in 2022

NCCTA Executive Director Jennifer Greene traveled to Ft. Bragg to help distribute trees and witness the smiling faces of the tree recipients.



THANKS TO ALL OF OUR NC MEMBER GROWERS WHO GENEROUSLY DONATED:

- | | | |
|-------------------------------|--|---|
| Appalachian Evergreens | Cline Church Nursery | Pressley Tree Farm LLC |
| Avery Farms/Trinity Tree Farm | Cornett Carolina Trees | Smokey Holler Tree Farm, LLC & Lil' Grandfather |
| Barr Evergreens | Cornett Deal Christmas Tree Farm | Snow Creek Christmas Trees |
| Bottomleys Evergreens | Cullowhee Valley Christmas Trees Inc. | Stone Mountain Farms |
| Buck Hill Tree Farm | Douglas R. Clark Nursery dba C&G Nursery | Sturgill Tree Farms |
| Buck's Tree Farm | Kathy Shore Nursery | Wind Dog Farm |
| Cartner Christmas Tree Farm | Happy Holiday Christmas Trees | Windy Gap Tree Farm Inc. |
| Christmas Tree Hill | Mistletoe Meadows | Wishon Evergreens |
| Clawson's Christmas Trees | Peak Farms | Wolf Creek Tree Farm & Nursery, Inc |



“Being active-duty military takes a lot of time. Having little things like a real Christmas tree to decorate means a lot and makes a difference in our community.”

Lance Corporal Antonio Mazzamuto stationed at Camp LeJeune, 2022



We are humbled by the generosity of Christmas tree growers and all the volunteers who came through despite the worlds' challenges



Trees For Troops is a joint effort between the National Christmas Tree Association's Christmas SPIRIT Foundation and FedEx. The North Carolina Christmas Tree Association is the North Carolina State Coordinator for Trees for Troops.

www.treesfortroops.org



Special thanks to:

- | | |
|---|---|
| Shane Biddix and Rodney Buchanan, Mitchell County CES, tree donation coordination | Hardees of Newland, breakfast |
| Blue Ridge Elementary School students, tree tags | Peak Farms, elevator |
| Buddy Deal, Smokey Holler Tree Farm, loading coordination | Randel Matney and Avery County ROTC students, loading |
| Brad Edwards, Alleghany County CES, tree donation coordination | Scott Pressley and Ryan Holquist, Jackson County tree donation coordination |
| Carolina Farm Credit staff, loading | Riverside Elementary School students, tree tags |
| Dee Clark, loading coordination | Jamie Vestal and Alleghany County Ag students, loading |
| Dale Cornett, Watauga County, tree donation coordination | Chalk Wetmore, David Hollis and Ashe County ROTC students, loading |
| Cranberry Middle School students, tree tags | Harry Yates, NCCTA Advisor |
| Freedom Trail Elementary School students, tree tags | |



NCCTA 2023

Winter Meeting Highlights

Our annual winter meeting and trade show was held at Boone United Methodist Church on February 23-24, 2023. We had even more attendees and vendors than in 2022, which also was well attended after COVID restrictions were eased. It is very encouraging to see this involvement in our industry. People are traveling more and interested in meeting face-to-face to reconnect around the Christmas Tree Industry and the various issues that we face, whether these issues are industry-wide or unique to North Carolina. Experts shared the latest research and discussions were held regarding industry trends, farm stress, pests and our 2022 harvest season. Our social

was exciting as it featured the sounds of Blue Country, an amazing local band in Watauga County, prime rib dinner and featured wine from the Old Barn Winery at Frosty's Choose & Cut. There were plenty of familiar faces at the meeting events along with some newer growers among the attendees and the show had so many vendors that exhibitor space was maxed out.

Thanks also to the many wonderful volunteers, speakers, sponsors, and exhibitors for contributing to another great gathering. And, finally, thanks to all the members and non-members who took time out of their busy schedules to come and connect with others in the industry! 🌲



A Blackstone 36" 4-burner griddle with accessories won by Chris Johnston

Special thanks to Ted Randolph and Sunbelt Rentals for their generous donation of two raffle items. All proceeds go to benefit NCCTA.



A Traeger wood pellet grill and smoker won by Brad Edwards

On behalf of the NCCTA Board of Directors, staff and members,
a very big THANK YOU
to everyone who contributed and helped
make the meeting a great success.

NCCTA 2023

Winter Meeting Highlights



NCCTA 2022 Summer Meeting Sponsors:

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Sunbelt Rentals

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C&J Christmas Trees
Cornett Deal Christmas Tree Farm
Happy Holiday Christmas Trees
Hart-T-Tree Farms
Mile High Tree Farm
Old Barn Winery at Frosty's Choose & Cut
PalletOne
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Bronze \$250

Cline Church Nursery
Cornett Carolina Trees
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Dayton Bag & Burlap
First Benefits Insurance Mutual
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Granite Insurance Agency
Greenscape Tools

Friends of NCCTA \$100

AgriFinancial
Carolina Wreath Company
Gra-Mac Irrigation
Granite Insurance Agency
Little Saps
The Old Country Store at Grassy Creek



NCCTA 2022 Summer Meeting Exhibitors:

Thank you to each of our exhibitors and allied business partners for their support of the real Christmas tree industry and the North Carolina Christmas Tree Association.

- CGB AgriFinancial
- Carolina Farm Credit
- Carolina Soil Company
- DMJPS CPAs & Advisors
- Dayton Bag & Burlap
- First Benefits Insurance Mutual
- First Security Insurance Agency
- Granite Insurance Agency
- Greenscape Tools, Inc.
- H&H Farm Machine Company
- Helena Agri-Enterprises
- LifeStore Bank and Insurance
- Linville River Nursery
- NC Agromedicine Institute
- NCDA&CS-Agronomic Services Division
- NCDA&CS Marketing Division
- NCDA&CS Pesticide Division
- NCDA&CS Plant Division
- NCSU College of Forestry and Environmental Resources
- Nature's Light Candles, LLC
- Nutrien Ag Solutions
- Onset Computer Corporation
- PRT USA Inc.
- PalletOne
- Southern Agricultural Insecticides
- Sunbelt Rentals
- USDA Farm Service Agency
- Vans Pines Nursery



Outstanding Service Award: Charles Fowler

Charles Fowler was honored for his Outstanding Service to the North Carolina Christmas Tree Association and Industry as a whole, and for his overall service as a member and proponent of the Christmas Tree Industry through his leadership and volunteerism over his career. Charles was instrumental in forming the Real Christmas Tree Board (formerly the Christmas Tree Promotion Board) from planning and development through

implementation. He served early on the Real Christmas Tree Board and was just reappointed for another term representing the Eastern Region of the US. He served as president of the NCCTA (2009-2010) and has served multiple terms on the NCCTA board of Directors. Charles is a tireless advocate for the REAL Christmas Tree Industry. Charles Fowler was presented his award by Ryan Holquist. 🌲

Outstanding Contributor Award: AnnMargaret Braham

AnneMargaret Braham received recognition for outstanding contributions throughout her career to the North Carolina Christmas Tree Industry. She was an integral part of the NC State Christmas Tree Genetics Program, serving as liaison between students, experiments, and Dr. John Frampton, ensuring that all the work progressed. She worked with growers and test farms across

the state. She participated in the international Christmas Tree Research and Extension Conferences, that took her to five European countries, two provinces, and two states since 2003. AnneMargaret retired from NC State in 2022. She was also honored with an NCCTA lifetime membership. AnnMargaret was presented her award by Joe Freeman. 🌲



Outstanding Contributor Award: Dwayne Tate

Dwayne Tate, Regional Agronomist at North Carolina Department of Agriculture and Consumer Services, was also recognized for his outstanding contributions to the North Carolina Christmas Tree Industry. In his current position for the last 12 years, he has provided advice on a wide range of agronomic issues, including liming, crop fertilization, nutrient management, soil testing, plant tissue analysis, use of animal waste and composts, nematode assays, and testing source water and nutrient solutions. He's been a highly valuable partner in Extension's work to understand the fertility needs of Fraser fir, and

then how to manage the soil fertility out in the field. He has assisted many growers with their fertility issues. His early work was with Dr. Jim Shelton in the soil science department. He assisted Dr. Shelton on much of the original research developing the standard fertilizer recommendations for native ornamentals and Fraser fir Christmas trees. Using what he learned early in his career, he has been invaluable in assisting with numerous fertility projects with Cooperative Extension ever since. Dwayne was honored with an NCCTA lifetime membership. Dwayne Tate was presented his award by Jeff Vance.

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FRASER FIR
FEATURED IN THE
STATE CAPITOL
AND IN THE HAWKINS-HARTNESS HOUSE

In December 2022, in keeping with tradition, NCCTA annual tree & wreath contest winners provided Fraser fir trees and wreaths for the State Capitol building and the Office of the Lieutenant Governor in Raleigh.

Alex Church and Amber Scott with Cline Church Nursery, who took first place in the Fraser fir category, won the honor of presenting a magnificent Fraser fir to Governor Roy Cooper, that was displayed in the rotunda of the NC Capitol Building. Their families joined them

for the presentation and the children brought special gifts of their own.

The Sexton Family of Sexton Farms presented a Fraser fir tree to the Lt. Governor in the Hawkins Hartness-House, Office of the Lieutenant Governor.

Sherry Peele, owner of Carolina Wreath Company, took first place in both wreath categories, earning the honor of presenting wreaths to the Governor and Lieutenant Governor.





WILLIAM “WAIGHTSTILL” AVERY, JR.

May 1, 1943 – March 23, 2023

William “Waightstill” Avery Jr., age 79, a giant of the NC Christmas Tree Industry, passed away at UNC Health Care-Blue Ridge in Morganton, NC, on Thursday, March 23, 2023. He was a pioneer of the North Carolina Christmas Tree Industry, promoting Fraser fir to farmers and consumers when he served as the cooperative extension agent for Avery, Mitchell and Yancey Counties. He was deeply involved with 4-H and served as president of the NC Christmas Tree Association as well as on the board of the National Christmas Tree Association. Waightstill was inducted into the Western North Carolina Hall of Fame in 2017.



For more than 45 years, Waightstill was a driving force for agriculture in Western North Carolina and beyond. He experimented with many agricultural enterprises including agritourism, alternative commodities for small family farms and marketing the mail order Christmas tree. Fraser fir production increased substantially under his care and at its peak, there were more than 1,200 growers in Avery

County. Waightstill played a large role in establishing 4-H clubs around the region and many have lasted more than 30 years after he helped create them.

Waightstill was born in Banner Elk and grew up on a farm that was deeded to his family by King George II during revolutionary times. He graduated with degrees from Lees-McRae College and N.C. State University. He went back to his farm and worked as an extension agent after graduation. He formed Avery County’s growers’ association to help promote trees and educate growers and build the market. He also grew vegetables and fruits for local farmers markets, also serving as president of the Avery County Farmers Market.

Waightstill Avery helped make Fraser fir a household name and spread its name far and away. He helped farmers diversify and market their products. His name will always be intricately linked to Christmas trees and agriculture, and he will always be remembered for the respect and kindness he showed to everyone who knew him.

“In Avery County, Mr. Sam Carter introduced growing Christmas trees to local farmers and then Waightstill is the one who got everyone involved in growing trees and he took it to the next level. I will always remember him as the eternal optimist and my greatest collaborator in trying new things—whether it was growing medicinal plants or making essential oils—he’d try it! Waightstill always fought hard for the small farmer and along with Doug Clark, he brought Fraser fir to the national market. He was dynamic in many ways and brought people together for change. After giving a tour of his farm to higher ups at NC State and being asked how the university helped him, he had to honestly say that he had not received any support. By Monday morning of the next week, someone from every department had called him to see what they could do in the way of supporting his endeavors with research. He was the first to practice cooperative marketing by selling to Winn Dixie and bringing other growers together to help fill the order.”

Jerry Moody
Director, Avery County Cooperative Extension

“Waightstill was one of the early N. C. tree growers to teach us that a ‘high tide floats all ships.’ He believed that by working together and sharing knowledge N.C. Fraser Fir would rise to the forefront of the National Real Tree industry. We will truly miss his positive personality and big smile.”

Harry Yates



“The passing of Waightstill leaves a huge void in the Christmas Tree Industry as well as in Avery County. He was very instrumental in helping to start the Fraser Fir industries in Avery and Mitchell counties and he will be missed.”

Dee Clark
Douglas R. Clark Nursery

“I knew Waightstill all my life. He was the ag agent in Avery County in the 70s and early 80s. I will always remember his big smile and big handshake. Enjoyed many meals and much fellowship over at the farm. Always blessed to spend time with the Averys. Waightstill was a man of great faith. You could hear it in his voice when he blessed a meal or prayed before a meeting. You could tell he was talking to a friend when he prayed and he was always so thankful for all that God had blessed him with. He was a farmer at heart and an innovator in so many different aspects of farming. Waightstill was one of my dad’s best friends and it’s hard to believe they are both gone within 7 months of each other. We lost a giant. He will be greatly missed!”

Jack Wiseman Jr.

“Waightstill was the most revered person in Avery County. Although my dad didn’t grow up there, when he first moved there, the Averys welcomed him with open arms. When dad would visit Waightstill, and, as a 6-7-8-year-old boy, his presence was so powerful, and his infectious charisma was really impactful on us. He made us feel included and always took the time to make our visits memorable. We’d walk out through that big bottom land, and it seemed we would always find an arrowhead. We would show steers and that could be kind of scary as a kid. Waightstill would make sure everybody felt a part of it and made sure we all had a good time.”

Sam Cartner
Grower and retired veterinarian,
Cartner Blue Ridge Fraser Fir



NCDA&CS AG PRODUCTS RECEPTION

In March, NCCTA attended the NCDA&CS Ag Products Reception in Raleigh. This event is an opportunity for NC commodity groups to showcase their products and speak face-to-face with NC legislators.



Calendar of Events

June 10, 2023

Skeet Shooting Event

Ashe County Wildlife Club

June 10, 2023

Joint Board of Directors & Fraser Fir Promotional Committee Meeting

Ashe County Wildlife Club

August 10, 2023

Joint Board of Directors & Fraser Fir Promotional Committee Meeting

Big Lynn Lodge, Little Switzerland

August 11 & 12, 2023

NCCTA Summer Meeting, Tradeshow and Farm Tour

Mitchell County



Become a Member!

Discover the advantages and benefits on page 10.

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Fraser Fir Transplants



Norway Spruce Transplants

FRASER FIR

Age	Size	Per 100 Rate	Per 1,000 Rate
(3-1, PL+1)	8-14"	\$120.00	\$890.00
(2-2, PL+2)	8-15"	\$145.00	\$1200.00
(P+2, P+3)	12-22"	\$175.00	\$1400.00

CANAAN FIR

Age	Size	Per 100 Rate	Per 1,000 Rate
(2-1, P+1)	8-14"	\$125.00	\$940.00
(2-2, P+2)	10-18"	\$165.00	\$1300.00
(P+2, P+3)	12-22"	\$180.00	\$1500.00

For a complete list call or write us.

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- Daniel Brown,
C&J Christmas Tree Farm

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