

FALL/WINTER 2018

Limbs & Needles

Serving the Christmas Tree Industry in the South

INSIDE:

When Should You Start Cutting Fraser Fir Christmas Trees?

Getting Familiar with Pesticide Families

NCSU Undergraduate Students Help Advance Christmas Tree Research

CTPB Update: Millennial Families Target for CTPB Campaign

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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.

Limbs & Needles

Keeping Christmas Real Since 1959

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Senior Editor	Jennifer Greene
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Design	Aaron Burleson

Front Cover Photo: "Fraser fir seedling production operation in Meat Camp"

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

Dale Cornett



It's amazing to witness the change in the market for our trees over the past two years. Demand is up, prices have increased, trees look great, and the supply is limited; a rising tide lifts all ships! With that said, we need to be reminded that the market is constantly changing and there will be a time again where it may not be quite as easy to sell our trees. I personally am thankful for the continued efforts of the NCCTA to market North Carolina Fraser fir Christmas trees. I would also like to personally say thanks to all the people that put forth the time and effort to host the Summer Meeting in Mitchell County this August and create a place where conversations about our changing industry can take place. See more about the summer meeting highlights in this issue of Limbs & Needles.

At this time I feel it would be wise to start the conversation about our next generation of retail outlets. With the number of retail lots that are unable to find the Christmas Trees they need, I'm afraid that number will be gravely affected this year and over the next two or three years, possibly longer. We realize the number of trees projected to be planted will increase over the next few years. This sets the industry up for another challenging time. It has been discussed that we as an industry might want to put together an educational program to train newly-opened garden center and landscape lot personnel which have become more prevalent as the

economy has improved and the building industry revitalized. They have the plant knowledge, the property and the personnel to sell our product, but I feel it is important that we help them to maximize their efforts to sell Christmas trees. This should happen as the number of trees grows in order to better manage a potential oversupply. It will take long-term planning and focusing of our resources.

Another projected change in our market is the mail order market. With internet outlets like Amazon, EBay and newcomers in an ever-changing digital marketplace, a more mail-order-friendly Fraser fir will be needed. Some research has already been completed or is in the works and the Christmas Tree Promotion Board has been charged to reach the millennial generation who uses social media extensively, but more needs to be done. Considerations include the possibilities of looking at narrower, lighter trees for mailing, looser styles of tree shearing, and growing methods including organic farming that may appeal to the social media generation.

As we look to the future of our industry and association, I ask that you bear in mind that our direction, locally and nationally, hinges on your support of county, state and national Christmas tree programs. It is your business; it is your livelihood and it is your choice. 🌲

WHY

**Should I Become
a Member of the
North Carolina Christmas
Tree Association?**



To promote the traditions and memories of celebrating Christmas with a Real Tree.



To protect and grow your business. NCCTA works to stop legislation and regulations that are negative to you and others growing, wholesaling and retailing Real Christmas Trees and to support beneficial legislation and regulations.



To be part of a community of Christmas Tree professionals and share the knowledge and experiences of thousands who share your concerns, questions and needs.



Executive Director's Report

Jennifer Greene

The NCCTA has begun to prepare for what has already started out to be another very busy season! As I'm sure yours has, our office phone has been ringing off the hook with calls from individuals looking to buy wholesale Fraser fir. That said, if any of you have any Fraser fir inventory left to sell, please notify the office so that we may assist you.

Just a reminder that Fraser Fir point-of-sale materials, including 36 x 55" banners, Fraser fir care pads, "Real Trees Make Scents" brochures and yard signs are available to you at no charge. Please contact the NCCTA office if you're interested in picking up some of these materials or would like them shipped to you. These materials

are provided courtesy of the NCDA&CS Specialty Crop Block Grant program.

Coming up in November, I am proud to be able to accompany Larry Smith to present a Fraser Fir Christmas tree to First Lady, Melania Trump, which will be placed in the Blue Room at the White House. I am also proud to be assisting the Estes family with presenting Fraser fir trees to the Vice President's residence at the U.S. Naval Observatory. It's such an awesome opportunity to be a small part of these prestigious events that honor our growers. Stay tuned for photos in the next issue of *Limbs & Needles*.

I hope that everyone has a safe, productive and profitable harvest season. 🌲

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Changing the Image of the Christmas Tree “Shortage”

In an effort to be proactive and help our grower members prepare for this hot topic story again in 2018, I have put together the following talking points. Hopefully this will help reduce the media's use of the term “shortage”, and encourage them to see it as a tight supply situation. They want to make the story focus on higher prices due to the shortage which I am concerned may cause some consumers to decide not to purchase a real tree during the short supply cycle. The goal is to help the media understand the impact of the production cycle and recession and to take the sensationalism out of their coverage.

NCCTA statement: Recent price increases are due to a tighter supply of harvestable Christmas trees. The current tight supply situation results from fewer trees being planted 7 to 10 years ago. This was due to a combination of excess supply at that time and the recession both pushing prices downward, along with some growers exiting the business.

The tight supply began in 2016/2017 and the situation will be similar in 2018; everyone who wants a real Christmas tree will be able to purchase one, shop earlier to get a better selection.

Additional talking points and facts for North Carolina:

- North Carolina Christmas tree growers will still be cutting four million or more trees!
- There will still be trees at farmers' markets, retail lots, chain stores, and choose and cut farms all across North Carolina.
- NC Fraser firs ARE available for purchase - Shop early for the best selection!
- Our industry is in a great place. Demand is exceeding supply nationwide and we are excited that consumers are excited about choosing a Real Tree.
- North Carolina Christmas tree sales total in excess of \$85 million dollars. This calculation does not include sales of value-added products produced by North Carolina Christmas tree growers including wreaths, roping, swags, table decorations, and mailbox decorations.
- The North Carolina Christmas Tree Industry is ranked second in the nation in number of trees harvested and produces over 20% of the real Christmas trees grown in the United States.
- North Carolina growers harvest approx. 4.3 million trees annually
- Fraser Fir trees represent over 99.4% of all species grown in North Carolina.
- North Carolina has over 800 Christmas Tree growers, with approximately 37 million trees growing on over 32 ,000 acres
- Fraser fir attributes - Incomparable needle retention, pliable yet strong branches for heavy ornaments, soft, pleasant-to-touch, dark green needles
- NC Fraser fir is a twelve-time winner of the national tree contest and has been displayed at the Whitehouse more than any other tree....1971, 1973, 1982, 1984 , 1990, 1993, 1995, 1997, 2005, 2007, 2008 and 2012 and soon to be 2018!
- At least 20 square feet of greenspace is available to wildlife for each Christmas tree grown.
- Zero: Amount of waste from a cut Christmas tree — a completely recyclable, renewable product.
- In general, Real Fraser firs are grown on family-owned farms in North Carolina that contribute to the economy of their counties, the State and the Nation. They are not imported by a big corporation from China where they are produced in low paying factories that are major contributors to global warming. 🌲

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National News

Wilson Barr



Recent Events

At a recent meeting of the Christmas Tree Promotion Board (CTPB), a major management decision was made. Marsha Gray will be leaving the National Christmas Tree Association (NCTA) to be the sole general manager of the CTPB effective September 1. This means that Tim O'Connor and Associates will no longer be managing the CTPB, but will still be under contract with NCTA and the Christmas Spirit Foundation (CSF). We want to thank Marsha for her total dedication to the Christmas Tree Industry. We know the extensive bounds of her many talents and her seemingly endless energy. We wish her the best as she pursues this new endeavor in her career to promote the real Christmas tree.

As for NCTA and CSF, they will be managed by the most capable team of Tim and Ann O'Connor. Not having the obligation to provide service to the CTPB, they feel confident that they can provide a professional, tailor made service, to provide our industry with the needed guidance into the next decade.

Advocacy

NCTA continues to advocate on behalf of the industry; most recently actively opposing a detrimental amendment to the Farm Bill. In addition, NCTA asked the board of directors to respond if they supported filing a request to the United States Trade Representative to add tariffs on artificial Christmas trees made in China to the next round of tariffs the US Government will be placing on China. The board vote clearly determined that NCTA would not request tariffs.

Membership

The Spring/Summer issue of the American Christmas Tree Journal was delivered with important consumer research and checkoff program referendum information, along with other industry news. 2018 Membership renewal mailings have been completed. They were sent to past members to remind growers that NCTA needs their support every year to be successful. The 2018 membership directory will be produced this fall and the produc-

tion of the Fall/Winter issue of the American Christmas Tree Journal will begin soon.

White House Christmas Tree

NCTA will be represented at the White House by North Carolina grower, Larry Smith, as he supplies the White House Christmas tree this year. North Carolina will also be represented by the Estes family at the Vice President's residence.

Meetings

The Pennsylvania Christmas Tree Growers Association will host the 2019 NCTA meeting and National Christmas Tree contest in conjunction with their meeting, similar to the Wisconsin Christmas Tree Producers Association's hosting of the 2017 NCTA meeting and National Christmas Tree contest. The meeting will take place at Roba Family Farms in N. Abington Township, PA.

The NCTA Executive Committee is seeking state and regional organizations interested in hosting the 2021 NCTA meeting and National Christmas Tree contest to begin discussions. 🌲

National Christmas Tree Association

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Marsha Gray – Ext 702

Tim O'Connor – Ext 701

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Legislative Update

Pat Gaskin

Congress has been on August recess and returned after Labor Day. Lawmakers reached a bipartisan deal to keep the government open until after the mid-term election. They have passed three spending bills and will be sending them to President Trump for his signature. They call this legislation the “minibus” and it includes funding for the Energy Department, Veterans Affairs and the legislative branch of the federal government. They have also passed a short term spending bill that would fund the rest of the government through December 7.

TARIFFS:

The tariff war with China, Europe, Canada and Mexico is taking its toll on many sectors of Agriculture. Farmers are interested in how the USDA will divide up the \$4.7 billion in trade aid the USDA plans to pay out to soybean, corn, wheat, cotton, sorghum, dairy and hog farmers. It is extremely difficult to access the net damage of tariffs to producers.

TAXES:

In late August, the IRS and the Treasury Department have proposed a new twenty percent deduction for so-called pass-through entities, that were created by the new tax law passed earlier this year. The new Tax law comes with some favorable terms for the many farms that have tax structures such as partnerships, limited liability corporations or sole proprietorships.

You may want to check with your accountant to see if any of this legislation applies to your business.

LEGISLATION: Immigration/Labor

There is virtually no prospect of any serious proposal getting adopted before we have a new Congress, although there have been suggestions of maybe doing something in the lame duck session.

There has been very little talk lately about introducing the Goodlatte bill. It still has a great deal of opposition from both sides of the aisle. House leadership is hesitant to bring it to the floor because they fear that the votes to pass are not assured. Even if the Goodlatte bill gets a vote and narrowly passes in the House, it would most likely be dead on arrival in the Senate. At present there is no consideration for legislative relief for the DACA recipients.

The best chance that Ag Labor has for some relief in the near term is the ongoing H-2A regulatory reform effort going on at USDA. Secretary of Agriculture Sonny Purdue and his staff are working hard to bring us some relief, but that won't happen before the 2020 Season even if all goes well.

LEGISLATION: Farm Bill

The Senate and House have passed their respective versions of the 2018 Farm Bill. The conferees for both the Senate and the House were named, and they have been holding closed door negotiations for weeks. They still remain far apart as they try to reach a deal ahead of the September 30th deadline, when the current farm law provisions expire. There is a great deal of opposition to the House version's new work requirements for SNAP recipients. Discussions continue.

I would like to wish everyone a GOOD, PROFITABLE AND SAFE HARVEST! 🌲



See the Latest News: NCCTA.blogspot.com

See highlights from the 2018 Summer Meeting on page 31.

W W W . N C C H R I S T M A S T R E E S . C O M

Why Should I Become a Member of the North Carolina Christmas Tree Association?



To promote the traditions and memories of celebrating Christmas with a Real Tree.



To protect and grow your business. NCCTA works to stop legislation and regulations that are negative to you and others growing, wholesaling and retailing Real Christmas Trees and to support beneficial legislation and regulations.



To be part of a community of Christmas Tree professionals and share the knowledge and experiences of thousands who share your concerns, questions and needs.



Special Benefits for NCCTA Members

- **PayAnywhere:** Credit card processing that helps support NCCTA with every swipe.
- **First Pioneer Insurance Agency:** Offers a special worker's compensation insurance program.
- **LifeStore Insurance:** Insurance discounts offered to members for property and liability coverage, workers compensation and health plan options.
- **Auto Owners:** NCCTA Members which will save 10% on all Commercial Lines of insurance (ie: Commercial Auto, General Liability, Inland Marine Equipment Coverage and Farm Property).
- **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.





Getting Familiar with Pesticide Families

Jill R. Sidebottom

Area Christmas Tree Extension Specialist,
NC State University

Did you know pesticides had families? Pesticide families are closely related materials that have the same mode of action – that is, how they kill the pest. The thing with families is, though, if a pest becomes resistant to one member of the family, it will probably be resistant to another. That's why it's important to rotate between different pesticide families. Pesticide labels are making this easier by clearly posting the family on the label. The following is also a good website and reference: <http://www.irac-online.org/modes-of-action/>

This table pulls together this kind of information specifically for insecticides labeled for Christmas trees. The families are color coded to show how the mode of action affects the pest. Blue affects the insect's nerves and muscles, green affects the insect's growth and yellow affects the insect's respiration. Hopefully this will be a helpful reference as you consider what materials to use to control the pests you have. 🌲

Chemical active ingredient	Common name	Pests controlled and other notes
Family 1A: Acetylcholinesterase inhibitors – Carbamates		
carbaryl	Sevin, Carbaryl	Aphids, caterpillars, rust mites, sawflies, scale crawlers. This product may control a lot of pests, but it does have some issues. It doesn't last long, so often the pest comes right back. Also, it can make spider mites worse.
Family 1B: Acetylcholinesterase inhibitors – Organophosphates		
acephate	Orthene	Aphids and mites. Will also help with elongate hemlock scale (EHS) control.
chlorpyrifos	Lorsban, Warkhark-Clearform	Aphids, balsam woolly adelgid (BWA) when no eggs are present, gypsy moth, white grubs. Has been associated with needle burn under certain circumstances.
dimethoate	Dimethoate	Aphids, spider mites, rust mites, bagworms, other caterpillars. Since it is also slightly systemic it can also control balsam twig aphid (BTA) after bud break, rosette buds, and EHS.

Chemical active ingredient	Common name	Pests controlled and other notes
disulfoton	Di-Syston	BTA, spruce spider mite (SSM). No longer manufactured.
malathion	Malathion	Aphids, mites, scale crawlers. Kills a wide variety of pest but seldom used.
phosmet	Imidan	Gypsy moth and other caterpillars, sawflies, seed bugs, weevils
Family 3A: Sodium Channel Modulators – Pyrethroids		
bifenthrin	Talstar, Onyx, Sniper	Aphids, adelgids, spider mites, bagworm, gypsy moth,
esfenvalerate	Asana	Aphids, adelgids, seed bugs/chalcid, spittlebugs, weevils
Lambda-cyhalothrin	Lambda-T, Silencer or Warrior II	Aphids, bagworms, gypsy moth
permethrin	Permethrin	Aphids, adelgids, seed bugs/chalcids
Family 4A: Nicotinic Acetylcholine Receptor Competitive Modulators – Neonicotinoids		
dinotefuran	Safari	BWA & EHS, very toxic to bees
imidacloprid	Merit	Adelgids, white grubs, very toxic to bees
thiomethoxam	Flagship	Aphids, sawflies, soft scales, white grubs
Family 4D: Nicotinic Acetylcholine Receptor Competitive Modulators – Butenolides		
flypyradifurone	Sivanto	BTA & BWA. Is easy on parasitic wasp of EHS. No bee warning on label.
Family 5: Nicotinic Acetylcholine Receptor Allosteric Modulators – Spinosyns		
spinosad	Blackhawk Naturalyte, Conserve SC, Entrust, SpinTor 2SC	Caterpillars, sawflies. Toxic to bees but not long lasting.
spiroticlofen	Envidor 2SC	Spider mites, rust mites – only one application per season

Chemical active ingredient	Common name	Pests controlled and other notes
Family 6: Chloride channel activators (Avermectins)		
abamectin	Avid	Aphids, rust mites, spider mites
Family 9B: Selective feeding blockers		
pyremtrozine	Endeavor	Aphids - No bee warning and no issues with predators
Family10: Mite growth inhibitor		
clofentazine	Apollo SC	Spider mites
etoxazole	TetraSan 5 WDG	Immature spider mites and mite eggs but not adults
hexythiazox	Hexygon, Savey	Spider mites
Family 12C: Inhibition of mitochondrial ATP synthase		
propargite	Omite	Spider mites. Has 7 day REI.
Family 15: Inhibitors of chitin, type 0		
diflubenzuron	Dimilin	Caterpillars, sawflies, weevils
Family 16: Inhibitors of chitin, type 1		
buprofezin	Talus	Scales – EHS. Won't affect good bugs.
Family 18: Ecdysone receptor agonists		
tebufenozide	Confirm or Mimic	Caterpillars
Family 20: Mitochondrial Complex III Transport Inhibitor		
bifenazate	Acramite, Floramite	Spider mites
Family 21: Mitochondrial Complex I Transport Inhibitor		
fenazaquin	Magister	Spider mites
Family 23: Inhibitor of acetyl CoA		

Chemical active ingredient	Common name	Pests controlled and other notes
spirotetramat	Movento	Aphids, adelgids, scales, rosette bud mites
Family 28: Diamides		
flubendiamide	Belt SC	Caterpillars
Not in a family – these products don't poison insects but rather smother them		
Horticultural oil		Excellent on rust mites. Controls BWA when eggs not present. Fair control of BTA, SSM and EHS. Requires excellent agitation or will cause needle drop.
Insecticidal soap		Aphids, BWA when eggs not present. Can cause needle discoloration

Recommendations for the use of chemicals are included in this publication as a convenience to the reader. The use of brand names and any mention of commercial products or services in this publication does not imply endorsement by the North Carolina Cooperative Extension Service nor discrimination against similar products or services not mentioned. Individuals who use chemicals are responsible for ensuring that the intended use complies with current regulations and conforms to the product label. Be sure to obtain current information about usage and examine a current product label before applying any chemical. For assistance, contact an agent of the North Carolina Cooperative Extension Service in your county.


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Mt. Rogers Christmas Tree Growers Association
The Barr Family
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Fred and Dot Wagoner
The Hudler Family
Tucker Tree Farms
T.R. "Dick" and Linda Workman

If you would like to join this effort by making a contribution to the association's fund and/or fund a named endowment, email cnr_development@ncsu.edu or call **919.513.7734**

NC State Natural Resources Foundation

Branching Out

A pioneer in forestry, NC State's College of Natural Resources has advanced North Carolina's Christmas tree industry through the application of genetic principles for more than 20 years. Our focus on improving tree species important to our state and screening new species for production will ensure that North Carolina remains one of the top producers of Christmas trees in the nation, with more than \$100 million in revenue annually, for years to come.

Our genetics research and breeding program helps:



Reduce the time required
to grow trees



Cultivate tree characteristics
that resist pest infestation
and environmental change



Improve tree characteristics
for commercial sale

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NCSU Undergraduate Students Help Advance Christmas Tree Research



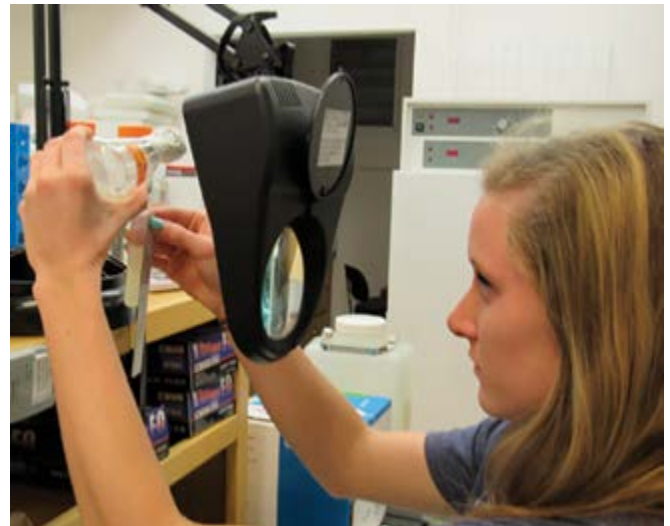
**John Frampton, Lilian Matallana
and AnneMargaret Braham**
NC State University

Over the years, the Christmas Tree Genetics Program at North Carolina State University has employed numerous undergraduate students to assist ongoing research projects. They work part-time while taking classes during the fall and spring semesters. Some students continue working full-time during the summer. Often students are hired through the Provost's Professional Experience Program (PEP) that provides meaningful research opportunities to students and helps campus research programs leverage funds by paying 75% of the students' wages. Recently, we have had an outstanding group of students assisting our research, so we would like to showcase their contributions.

Somatic Embryogenesis Project

Somatic embryogenesis (SE) is a laboratory cloning method and a necessary biotechnological tool to apply new gene editing techniques. Fraser fir SE research at NCSU began in 2016 supported by funds from the NCDA & CS Specialty Crop Block Grant Program. Starting in 2017, three students have assisted with this project: Audrey Bowen (Environment Technology & Management), Sophie McNatton (Genetics) and Danielle Pavic (Biological Sciences). Each student developed and carried out a research project to help further our SE efforts.

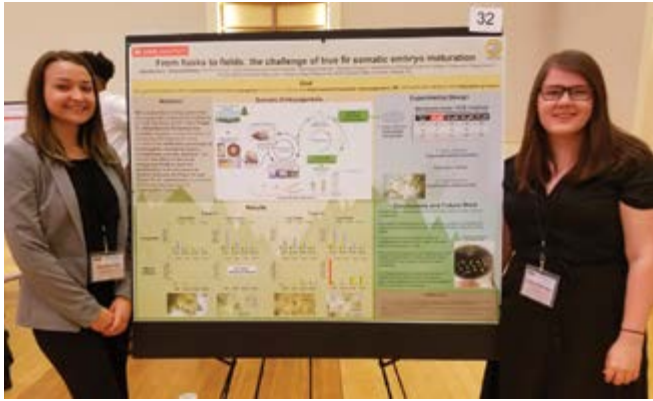
Audrey compared growing embryogenic Trojan fir cultures on gelled medium in petri dishes to suspension cultures in flasks of liquid medium. She found that liquid suspension cultures grew faster and produced more mature embryos than cultures on gel, which could greatly reduce the cost of cloning fir via SE. Audrey presented a poster entitled *Growth and Maturation Rates for Em-*



Audrey Bowen measures SCV (settled cell volume) to assess the growth rate of her liquid suspensions of fir somatic embryos.

bryogenic Trojan fir Proliferated on Gelled Medium or as Liquid Suspension Cultures at the NCSU Undergraduate Research Symposium during April 2018.

Sophie wrote a grant proposal called *Effect of Cytokinin-Auxin Interactions on Maturation of Fraser fir Somatic Embryos* and was awarded \$500 from the Office of Undergraduate Research (OUR). In addition to this project, Sophie teamed with Danielle to investigate the effect of an auxin antagonist (PCIB) on both the growth and conversion to mature embryos of Fraser and Trojan fir SE cultures. They jointly presented a poster entitled *From Flasks to Fields: The Challenge of true Fir Somatic Embryo Maturation* at the Undergraduate Research Symposium. Theirs was judged to be among the outstanding presentations. Both students graduated spring semester but Dani-



The research poster and presentation of Danielle Pavic (left) and Sophie McNatton (right) was judged outstanding at the NCSU Undergraduate Research Symposium.

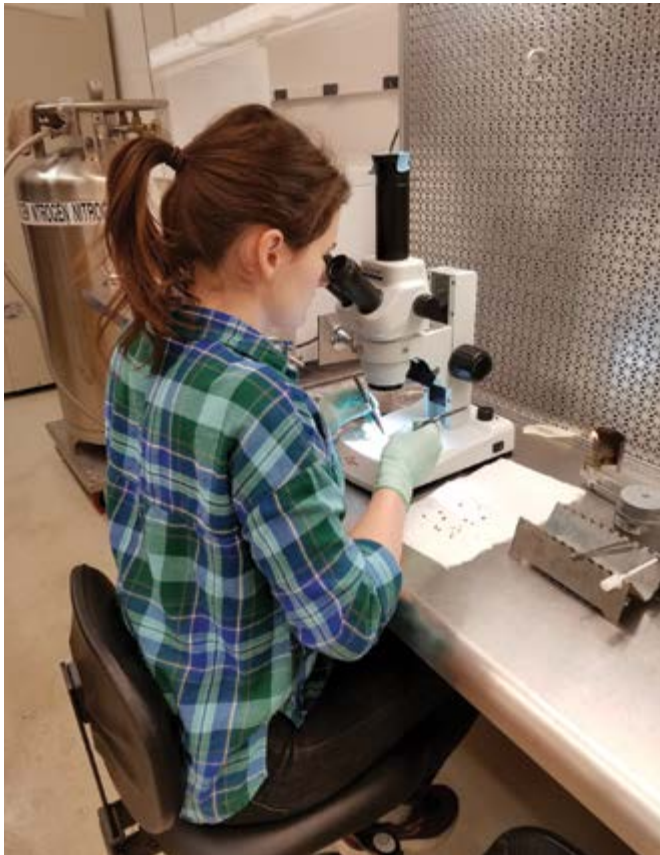
elle is continuing to work on this project while Sophie is pursuing graduate education at Duke University.

Chalcid Wasp Infestation Patterns in a Fraser fir Seed Orchard

During the summer of 2016, while dissecting hundreds of immature Fraser fir seeds for the SE project, tiny

larvae were found inside some seeds and we observed differences in infestation rates from seeds originating from the different orchard clones. These preliminary results motivated us to identify these parasites and study the infestation and adult emergence patterns among different clones in a seed orchard in Ashe County managed by the N.C. Premium Fraser fir Seed Cooperative. The North Carolina Christmas Tree Association sponsored this research.

Kelly Goode, a senior majoring in Genetics and Plant Biology, helped to develop insect rearing methods and tracked the emergence of adult insects from seed lots that were exposed to different cold and darkness treatments. The adult insects were stored for further taxonomical classification and some specimens were provided to NCSU Insect Museum. The specimens were identified by their morphological characteristics with the help of two experts in North America, Drs. Matthew Bertone and Roger Burks, and Dr. Petr Janšt in the Czech Republic. We were able to identify two chalcid wasps, namely *Megastigmus specularis* and its parasitoid *Mesopolobus*. We observed that the longer we kept the seeds in the dark



Kelly Goode (left) dissects Fraser fir seeds under the stereo microscope while counting and collecting chalcid wasp larvae. Kelly (right) collects stored seeds from the N.C. Premium Fraser Fir Seed Coop in order to assess clonal variation in infested seeds.

and cold, the shorter the time *M. specularis* adults took to emerge. The most adults were detected when seeds were stored for approximately 3 to 4 months. In the case of *Mesopolobus*, there was no correlation between the number of days that seeds were stored and the number of days to emerge but the highest number of adults emerged after 4 to 5 months of storage.

Other interesting results from our study showed that there was a difference in clonal infestation rates among clones and that clonal infestation rankings correlated across two consecutive years. Finally, we were able to confirm that the machine the co-op uses to clean and separate seed (based on weight) is largely effective at separating infested from non-infested seeds.

Kelly presented partial results from this study during two important events: The N.C. Undergraduate Research and Creativity Symposium at Campbell University and the NC State Undergraduate Research Slam. Her talks were both entitled *How the Wasps stole Christmas Trees*.

Characterizing the Needle Abscission Zone

The commercial implications of post-harvest needle abscission on the Christmas tree industry are well known, as some consumers opt for artificial trees instead of real trees due to the “mess” from needle loss. Our group has been one of the pioneers in the study of needle abscission in conifers combining transcriptome (gene expression) and phenotypic (observed characteristics) data. Recently Kelly Goode was awarded \$2,000 to develop a summer project entitled *Histological Characterization of Postharvest Needle Abscission in Fraser Fir*. Kelly works under the direct supervision of Dr. Lilian Matallana, and together they have standardized different protocols to microscopically visualize the abscission zone in Fraser fir. Our goal is to integrate previous transcriptome data analysis with the histology (microscopic structure of tissues) of abscission zones in order to identify structural changes associated with variation in gene expression. Kelly was selected to represent NC State during the National Undergraduate Symposium at the University of Central Oklahoma last April. From the ~4,000 national submissions to the event, 17 students represented NC State. Kelly was one of 14 NC State students who received full travel fund grants from the Office of Undergraduate Research. **Kelly was the only NC State student invited to give an oral presentation at this national event.** Her talk was entitled *Cell Separation: The Christmas Story You Haven't Heard*.



Eric Bolick inventories families of Fraser fir seedlings in a greenhouse at the NCSU Horticultural Research Laboratory (HFL). The inventory will be used to design genetic field trials to be established in the mountains of Western NC during spring of 2019.

Greenhouse and Field Projects

During the summer of 2018, Eric Bolick, a rising senior in Forest Management, assisted with greenhouse and field activities for the Christmas Tree Genetics Program. A native of Garner, NC, Eric is exploring genetics and tree improvement aspects of forestry with thoughts toward future study. Culture of plant material in greenhouses at the Horticultural Field Lab is an ongoing duty for Eric and includes watering, fertilizing, weeding, and occasional pest management. An initial major task this summer was transplanting grafted Virginia pine selections into larger pots, staking them as necessary, and trimming rootstock. Next spring, these grafts will be used to establish a new Virginia pine seed orchard. Eric traveled to the Mountain Research Station, in Waynesville, to help maintain the Fraser Fir Clone Bank there and braved poison ivy to trim rootstock, verify clonal IDs, and install tags with new clone numbers. Currently, he is helping to take an inventory of Fraser fir seedlings that will be used to design genetic field trials scheduled for establishment in the mountains next spring. These seedlings will also need to be individually tagged, their heights assessed, and then arranged into planting design order prior to their move to the mountains. Eric is a fine example of the many student partners that have helped move Christmas tree research at NCSU forward. 🌲



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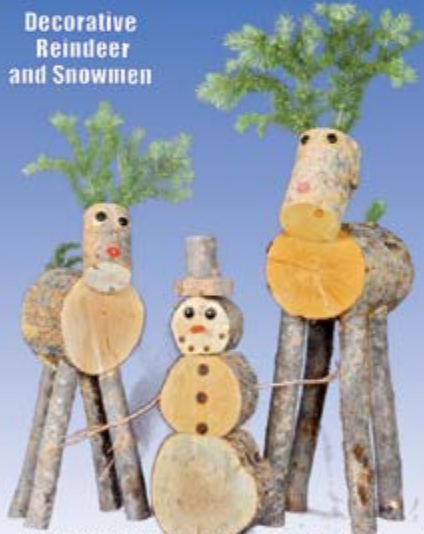
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WHEN SHOULD YOU START CUTTING FRASER FIR CHRISTMAS TREES?



Jeff Owen

Area Christmas Tree Extension
Specialist, NC State University

Warm fall days make the decision of when to start cutting Fraser fir Christmas trees more difficult. Without some exposure to cold temperatures, Fraser firs remain physiologically active. Actively growing trees breathe or respire, photosynthesize, open and close stomates on foliage, soak up and lose water, and conduct a host of different biochemical reactions. Dormant trees do most of these things much more slowly which can help to keep a tree fresher. Good needle retention, in particular, depends on tree dormancy. Growers know this, but the question often arises: “How much cold is really needed to set the needles?”

Several factors contribute to dormancy in Christmas trees including cold accumulation, shorter days, rainfall or lack thereof, and nutritional status. Shorter days and cold temperatures are primary drivers of the physiological processes involved in dormancy. **Figure 1** shows branch needle retention ratings from four different harvest dates in 2016. On the 7-point scale, 0-1 is very good, 2-3 acceptable, 4-5 poor, and 6-7 terrible. Branches from both October harvest dates exhibited severe needle loss. The October 7 cutting preceded any cold temperatures. The October

21 cutting benefited from only three nights of temperatures below 40 degrees Fahrenheit. By November 2016, there had been eight nights with temperatures below 40. November-cut branches retained their

needles very well. **Figure 2** shows a different pattern of needle retention in 2017. Only the early October harvest date branches dropped needles excessively. By the October 26, 2017 branch collection, there had already

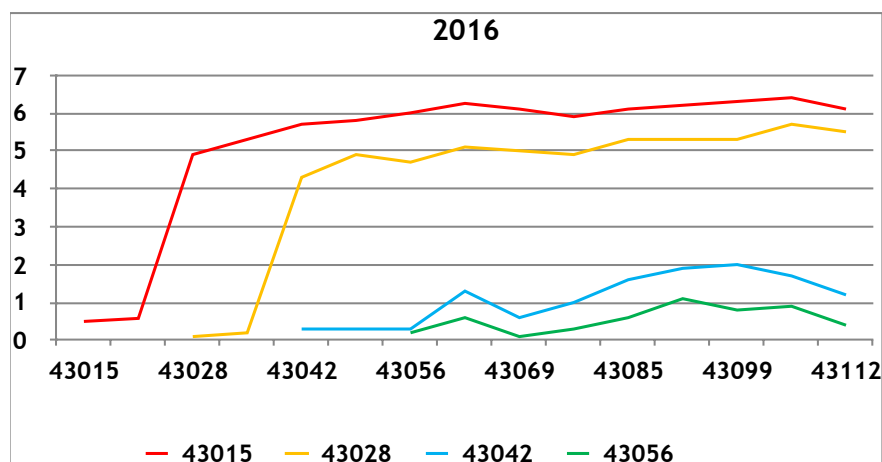


Figure 1. 2017 harvest timing: Average needle loss rating (0-7)

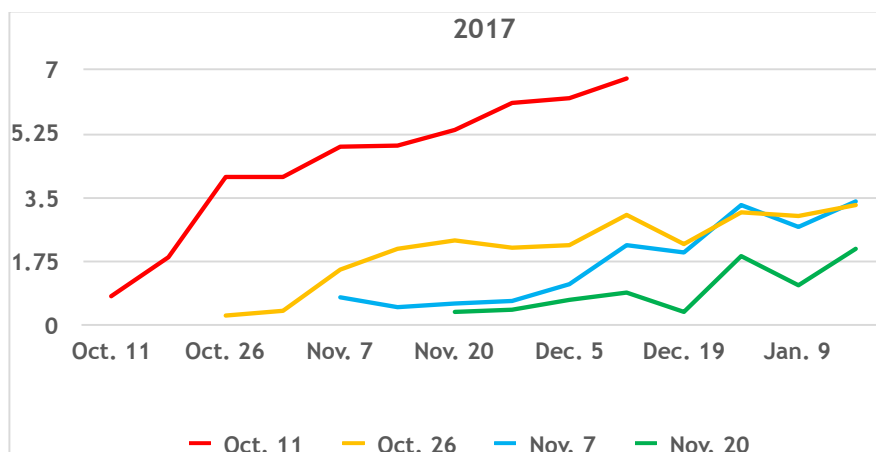


Figure 2. 2016 harvest timing: Average needle loss rating (0-7)

been 10 nights with below 40 degree temperatures. Cold weather is vitally important.

One mechanism for dormancy in Fraser fir depends on accumulation of certain sugars in foliage cells. These sugars are produced during daylight hours through photosynthesis and utilized by actively growing trees when they respire in the dark. When nights are cool the rate of respiration slows and less sugar is consumed. When nighttime temperatures drop below 40 degrees Fahrenheit, more sugars accumulate. These sugars have been used as an indicator of the level of dormancy achieved. While 2 or 3 nights of cold may allow trees to reach an initial level of dormancy, 5 to 7 nights will provide a deeper level of dormancy and so on. The more cold nights, the better.

Dormancy can go both ways though. Rates of respiration increase if there is a period of warm days with nighttime temperatures in the high fifties or sixties. This was the weather pattern we experienced in 2015 when many growers had postharvest issues. Under such conditions, stored sugars are used up and some level of dormancy will be reversed. To an extent, Fraser fir dormancy is a moving target depending on nighttime temperatures. Full winter dormancy may not be achieved some years until after Christmas. In one study conducted by Eric Hinesley, the deepest level of dormancy, as measured by accumulated sugars, was not achieved until after extended cold weather in January.

Other factors do come into play in cold acclimation and could buffer or accentuate the effects of a warm spell. Trees respond to shorter days and longer nights with physiological changes regardless of temperature

swings. Drought stress can help shut down trees in the field by closing stomates and reducing the rate of respiration. Conversely, warm wet seasons like 2015 can put trees at risk by keeping trees in a more active state in which respiration occurs at a higher rate. Higher rates of respiration not only use up sugars that contribute to dormancy, they also generate heat as a by-product of the chemical reaction. This is a contributing factor to overheating problems observed in stored & palletized Christmas trees.

Needle Retention

Needle retention depends on more than just cold acclimation and the presence of certain sugars. Just like foliage on broadleaf trees, Fraser fir needles have an abscission layer that actively separates in response to certain environmental stresses and the interaction of plant growth regulators. Low auxin levels and increased ethylene levels are both associated with needle drop. Among a number of functions such as fruit ripening, ethylene is associated with formation of cellulase and the breakdown of cell walls. Ethylene is released throughout plants that are wounded or under stress. Severing a tree from its roots and subsequent drought stress would likely stimulate ethylene production. Adding water to a cut tree or maintaining moisture content by increasing relative humidity would reduce stress and slow ethylene production. Growers take care of cut trees because it keeps them fresh, but on a deeper level, those practices manipulate hormonal levels that drive physiological processes like needle abscission.

It is important to point out that a process like needle abscission only

occurs in a tree that is still alive. Biochemical changes have to occur to cells in the abscission zone for them to break down and separate. This does not happen in a dead tree, and when a cut tree dries out, it dies. Needles can break off but they won't abscise. This may support the notion some retailers hold that a dry Christmas tree holds up better than one that is watered and cared for. Excessively dry cut Fraser firs will hold their needles, but they are brittle, off-color, and a fire hazard, and a poor representation of a real tree.



So, when should you start cutting?

The answer to that depends on the weather, science, and logistical factors unique to each grower. Decision-making depends on the location of trees, availability of labor and equipment, and the amount of risk a grower is willing to assume for product failure (i.e. needle drop, truck cracks, overheating).

Historically, night temperatures in western North Carolina began dropping below 40 in mid-September or early October. In some recent years this hasn't happened until late October or even November. Watch the forecasts and your local conditions. If we are in an unusually warm season, delay harvest as long as you can.

Given the reversible nature of dormancy, it is nearly impossible to "draw a line in the sand" to say that

SCALE OF COLD ACCLIMATION

Level of Cold Acclimation	Extent of Cold Weather	Action
<i>No cold acclimation</i>	<i>No nights with temperatures below 40 F</i>	<i>Delay harvest if possible</i>
<i>(a high risk of freshness issues including needle drop, trunk cracks, and overheating in storage)</i>		
<i>Some cold acclimation</i>	<i>2-3 nights with temperatures below 40 F</i>	<i>Harvest with some risk</i>
<i>Partial dormancy</i>	<i>5-7 nights with temperatures below 40 F</i>	<i>Proceed with harvest</i>
<i>Approaching full dormancy</i>	<i>2 weeks with night temperatures below 40 F</i>	<i>Optimum harvest</i>
<i>Reversal of dormancy</i>	<i>1 week with night temperatures above 55 F</i>	<i>Harvest concern</i>

dormancy is complete on a certain day and trees are ready to cut. The following “scale of cold acclimation” is a way to categorize the decision-making process in relation to the weather. This scale provides a practical framework based on my own harvest timing studies and other postharvest research, but proposed categories have not yet been calibrated through a specific research study.

Unfortunately, the answer to “when to start” might become “when you have to.” At some point, the chainsaws have be fired up. If the planned harvest start-date arrives and passes by without adequate cold acclimation, production constraints eventually supersede the dormancy requirements of Christmas trees. Logistically, trees need to be cut and stored in time for shipment.

That “must-cut” date depends on farm scale, farm resources, markets, and the manager. Large operations and any smaller-scale growers who sell to them are usually under greater pressure to start cutting earlier. Early harvest dates are driven by early chain store delivery dates. Exports to the Caribbean Islands or Central America require more time for shipping. Determining when to start is a matter of working back from delivery date through the steps it takes to harvest that many trees. It is not un-

like what a general must do to get an army in place for a battle!

Management Considerations

Choices in management can take pressure off the start date. Some major growers delayed harvest by more than a week by increasing investment in resources and workforce. Adding more men for a shorter period affects cost across the board from transportation vans to chainsaws. Some growers worked with labor contractors and equipment leases to expand short-term capacity. Hampered by the current shortage of planting stock, others have reduced harvest goals and tree inventory which also has allowed them to delay their harvest date.

If a grower is still going to harvest early, an investment in on-farm storage is critical. Shade structures, misting irrigation systems, and refrigerated warehouses are all technological strategies to overcome warm weather. They can all keep trees fresher by keeping them cooler, reducing the rate of respiration, and reducing moisture loss by increasing relative humidity. However, no storage practice can alter the state of dormancy a tree has when it is cut. All that these practices can do is hold and stabilize. When a tree leaves the protection of

farm storage, stress response is still governed by its level of dormancy at the time the tree was cut. Dormant trees will still respire less, dry more slowly, and hold needles better than a more active tree.

Considerations for Palletizing

For growers who palletize, the question of when to start palletizing is as important as when to start cutting trees. After experiencing past problems with overheating, few if any growers now directly palletize cut trees from the field on the day they were cut. Our research has identified respiration as an initial source of heat, one that declines rapidly with time. If trees are cured for several days, they can be safely palletized. Most growers cure fresh-cut trees at least a day or two, but possibly more than a week before palletizing. The length of time that trees are cured prior to palletization changes depending on how curing is practiced.

Some growers field-cure their trees by simply letting them lay unbaled for a day or two where they drop after cutting. However, these field-cured trees are exposed to full sun. They dry out even as the heat of respiration is dissipated. Light to moderate drought stress may help to shut the tree down by closing sto-



mates, but too much stress can aggravate needle drop. Trees must be palletized promptly if they are to retain adequate internal moisture. An unbaled tree can lose half its water in a day in full sun. Stressed to such an extent, desiccated trees may not rehydrate adequately when displayed in water.

Other palletizers store their trees in yards to cure. Shaded storage utilizing upright tree stacking is optimal. If trees are cured under shade, they can wait 2-3 weeks or more before being palletized right before shipping. If baled trees are stored vertically, the hollow core around the trunk functions as a chimney allowing any heat to dissipate out the top of the tree and excess rainwater to run out the bottom.

As with the cut date, the season should play a big part in deciding when to palletize. Pallets of Christmas trees conserve moisture better than piles or stacks of loose trees. Retaining moisture is beneficial in a drought year when trees are cut dry. If, however, trees are saturated with water when cut and/or the harvest

season is rainy, then conserving water is not desirable. The worst overheating problems have occurred in the past when trees have been palletized in heavy rain. The management challenge is to be flexible enough to optimize practice for either extreme.

Harvesting Greenery - Thinking ahead

While this article has focused on questions related to tree harvest, greenery production represents both the earliest harvest dates and the greatest potential for product failure. Decisions about harvest date are even more critical when an early-October versus mid-October timeframe is under consideration. The same cold acclimation rules apply to greenery as to trees. The same storage limitations apply. You can preserve freshness in storage but you cannot induce dormancy without photosynthesis. High humidity, cold temperatures (below 38 F), and dim lighting provide ideal storage conditions to preserve freshness.

As we look to the future, experimental use of ethylene blockers such

as 1-MCP (Smartfresh, Harvista) and/or auxins may improve needle retention even when there is inadequate cold weather. Over three years of research, we have observed noticeable improvements in tree needle retention associated with 1-MCP. We plan to test 1-MCP products on greenery this fall.

In Conclusion

Even a degree of improvement in needle retention is important for an early load of trees going to the Caribbean by container or a load of wreaths and roping going to Florida. The idea of a product that could be sprayed onto trees like Harvista is certainly attractive. However, an investment in logistical or structural postharvest improvements is currently realistic. You and your crew may have organized harvest a certain way over the years. It must have worked if you are still in business. But, as the weather changes, you need to change with it. Review your harvest goals and practices. Have a plan in place if you need to wait to cut trees because of the weather. 🌲



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Handling the “Shortage” Story:

Tools for the Industry

As most growers will remember, last season the media aggressively covered the story of the “shortage” of fresh cut Christmas trees. Despite efforts by CTPB, NCTA and other industry leaders, the story was amplified around the US. And although some reporters did include some accurate information, the headlines with the word “shortage” were a serious problem for the industry.

With the expectation that this story will be presented again in the media, the CTPB has worked with Fleishman Hillard on a plan to preempt some of the incorrect reporting. Professionals at Fleishman Hillard have also developed a set of talking points and answers to common reporter questions that the entire industry can use. These tools are being shared with all state association executives for their use and distribution to their members, as well as with leaders of CTPB and NCTA.

The tools are also being shared via the CTPB e-newsletter and will be posted on the CTPB resource center website. By using the tools, growers can help to discourage incorrect reporting of this issue. ▲



Millennial Families Target for CTPB Campaign

With Christmas fast approaching, the Promotion Board has plans in place for the 2018 promotional season. The campaign will feature the experience of selecting the Christmas tree and the significance that this event holds for so many families.

Once again, the CTPB is working with its two partners, Concept Farm and Fleishman Hillard, to develop a creative and engaging story that shares our messaging in a compelling way. Success is measured by the ability to reach the target market. Each of these partners has a role to play in insuring the success of the campaign and their work is guided by the CTPB internal team of Marsha Gray, Executive Director, Rex Korson, Promotion Committee Chair and Chris Maciborski, Promotion Committee Vice-Chair.

Concept Farm will be creating a series of videos featuring real families; first sharing some of their holiday traditions, then allowing us to follow along as they select their Christmas tree. These families will be actual customers, pre-identified by industry retailers and growers. In addition to capturing the family

tree selection experience, Concept Farm will be capturing interviews with growers, retail lot operators and other customers along the way. All this footage can be turned into usable content. Like the grower videos, this series will be shared on our social media platforms and “boosted” to expand our reach.

In addition to the family videos, Concept Farm will also be sharing some of the tremendous grower videos from last year on our social media platforms and industry members are encouraged to share the content on their social sites. Last year, hundreds of industry members engaged with the “It’s Christmas. Keep it Real” Facebook page and made a big impact in expanding our campaign reach. At the same time, those growers had access to professional content for their own Facebook pages.

Public relations partner, Fleishman Hillard, will be expanding the reach of the campaign by securing several opportunities including a satellite media tour, influencer partnerships and through a feature story on a popular on-line entity with great Millennial reach. “Real People. Real Trees” will be the theme of a con-

test, encouraging consumers to share their real Christmas tree photos on social media.

The Promotion Board plans to partner with Red Tricycle, an on-line media outlet with a massive millennial reach, by sharing the experience of selecting the family Christmas tree and all the fun that goes with it. The Red Tricycle mission is “to help every parent feel like a rock star by inspiring them to do fun things with their kids.

We offer ideas that are aspirational and actionable that you can do at home, in your city or wherever your adventures take you.”

Further spreading our message, we will work with influencers on social media; popular with young moms and dads. These influencers have great sway with their followers and both the influencers and Red Tricycle can announce our “Real People. Real Trees” contest.



Of course, the public relations efforts will also include press releases to traditional and on-line media and will also include a repeat of last year's successful satellite media tour. This opportunity allows us to schedule as

many as 30 television interviews across the country in one morning; using a paid spokesperson along with a Christmas tree grower.

Finally, the campaign will also include a cross promotion with the Christmas Spirit Foundation's Trees for Troops program as it did in 2017.

In all the work that is planned for the season, the key messages that real Christmas trees are better for making family memories and better for the environment will be incorporated and reinforced. The goal is to expand the reach to consumers, particularly millennial parents, and share the rallying cry; *It's Christmas. Keep it Real!* 🌲

Christmas Tree Promotion Board Announces Interim Executive Director



Marsha Gray has been named as the interim Executive Director of the Christmas Tree Promotion Board (CTPB). Gray has been serving the CTPB as the Industry Communications and Program Director since shortly after the Board's inception in January of 2015.

Jim Rockis, Chairman of CTPB said, “Marsha's energy and enthusiasm for our industry are unparalleled. She worked tirelessly as a volunteer for the seven years that it took to get our program and has been with us since our start. We are looking forward to her guidance in the future.”

The Christmas Tree Promotion Board is a national research and promotion program whose mission is to share the benefits of fresh Christmas trees with consumers through promotion and public relations while engaging in research to better serve our customers and growers. 🌲

Merchandise Shop Now Open!

The Christmas Tree Promotion Board is happy to announce that industry members can now purchase merchandise featuring the “It's Christmas. Keep it Real” message and logos.

CTPB has agreed to allow Screen Designs, Inc. to open an on-line merchandise store where growers can order t-shirts, sweatshirts, caps and more. Growers will order directly from a special site created by Screen Designs, Inc.

In addition to wearable merchandise, growers can also order printed campaign banners in several designs. Check out the website and plan your order now.

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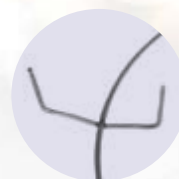
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Sunbelt Rentals
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NCCTA 2018 Summer Meeting Highlights

Mitchell County

The North Carolina Christmas Tree Association's semi-annual summer meeting, trade show and farm tour was held August 17 & 18 in Mitchell County, NC. It was hosted by the Mitchell County Association of Christmas Tree Growers and Nurserymen. The meeting was held at Mitchell High School. The attendees enjoyed speakers, vendors and a tour of Christmas tree farms.

Additional highlights of the meeting included vendor door prizes and a raffle to raise money for the NCCTA, vendor equipment displays on the Mitchell High School front lawn, and a social featuring a blue grass band at a converted historic hosiery factory in Spruce Pine. Educational topics included H-2A & farm labor, contracts and collections, and considerations for transitioning a Christmas tree business to the next generation. The Christmas Tree Promotion Board presented current marketing strategies.

The farm tour began Saturday morning with a stop at a Christmas Tree Hill Nursery field for twig aphid and

scale control results after Sivanto application. At Buck's Tree Farm, an ongoing root dip trial process was featured. At another of Christmas Tree Hill's fields, participants walked through a current herbicide trial. After lunch, the tour continued to Wolf Creek Tree Farm for a drone demonstration with NCSU graduate research assistants Andrew Howell and Joseph Hunter. The duo demonstrated the agricultural uses of a large Agras drone fitted with a reservoir and three different sprayer nozzles. The final stop was at an original stand of Fraser fir on Roan Mountain and tour participants were encouraged to think about the NCCTA growers' role in protecting and managing these stands.

Thanks to all the individuals that gave their time and efforts to help make the 2018 summer meeting a success. 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 great. 🌲



ASHLEY CHURCH

RAFFLE WINNERS

Special thanks to Cooper's
Trading Post in Burnsville
and Sunbelt Rentals!

Thank you to everyone who
supported this year's raffles.



RICK STEVENS

NCCTA 2018 Summer Meeting Highlights



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.



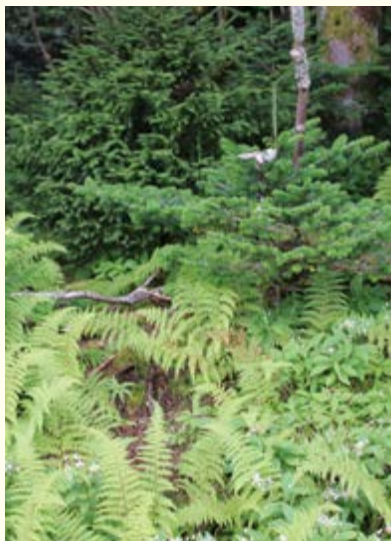
Christmas Tree
Association

N C C T A 2 0 1 8

Summer Meeting Highlights

FARM TOUR STOPS

Christmas Tree Hill Nursery • Buck's Tree Farm • Wolf Creek Tree Farm • Roan Mountain State Park



N C C T A 2 0 1 8

Summer Meeting Highlights

FARM TOUR STOPS



Christmas Tree Hill Nursery • Buck's Tree Farm • Wolf Creek Tree Farm • Roan Mountain State Park



CONGRATULATIONS!

WINNERS

OF THE

2018 NCCTA Tree & Wreath Contests



FRASER FIR

Grand Champion

Rusty & Beau Estes, Peak Farms

2nd Place

Lynn Smith, Merlyn Farms

3rd Place

David Cartner, Cartner Christmas Tree Farm



OTHER SPECIES

1st Place

Rusty & Beau Estes, Peak Farms



The annual NCCTA Tree & Wreath Contest was another highlight of the show. The contest was sponsored exclusively by County Farm Bureau Federation Boards including Ashe County, Avery County, Jackson County, Mitchell County and Watauga County. Contest winners were presented checks courtesy of Farm Bureau Federation, and awards for their exemplary trees and wreaths.

CONGRATULATIONS!

WINNERS

OF THE

2018 NCCTA Tree & Wreath Contests



DECORATED WREATH

1st Place

Rusty & Beau Estes, Peak Farms

UNDECORATED WREATH

Grand Champion

Rusty & Beau Estes, Peak Farms

2nd Place

**Charles & Rebecca Fowler,
Windy Gap Tree Farm, Inc.**





TREES FOR TROOPS

Spreading Christmas Cheer, One Tree at a Time

2018 will be the 14th year of the Trees for Troops program and we need your help to provide trees and greenery to deserving military families again this fall. In order to provide trees for the 2018 season, local growers can donate trees through your state coordinator, Jennifer Greene. In addition to tree donations, we are looking for growers to help load trees on the FedEx trucks, to direct volunteer helpers, and to provide snacks for volunteers, either store-bought or homemade. Please consider the Trees for Troops program this year, even if you can only spare a few trees.

Last year, thanks to 35 NCCTA growers and others, more than 800 trees were delivered to service families living at bases in North Carolina. The NCDA&CS

Upper Mountain Research Station, Avery County NC Cooperative Extension hosted the loading events, along with volunteers help from growers, allied business members, and local ROTC and Ag students.

Help military service members and their families have a wonderful Christmas!

To learn more and get involved, please contact Jennifer Greene at NCchristmastrees.com or call the NCC-TA office at (800) 562-8789. 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 coordinator for Trees for Troops. 🌲



2018 Goals

350

***Upper Mountain Research
Station, Laurel Springs***

250

Avery County

www.treesfortroops.org

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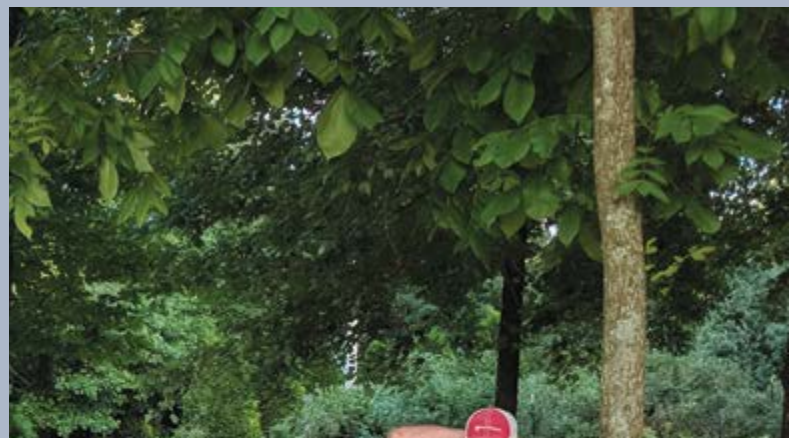
*Discover the advantages
and benefits on page 11.*

South Carolina Christmas Tree Association Meeting

The South Carolina Christmas Tree Association held their annual meeting Friday and Saturday, June 15-16 at Henry & Trudy Helm's Christmas Tree Farm in Vale, NC. The Friday afternoon program began with a special tour of the Woodmill Winery and a local boutique. Jeff Owen, NCSU specialist, talked about weed control & herbicide procedures. An antique 16 MM film from the 1960s, Something More for Christmas, was shown to illustrate how the industry has changed since its inception, as Christmas trees still evoke the same warm feelings of the season. Supper at the Helms farm included a pig pickin with all the fixings and stories by Brad Edwards, Ashe-Alleghany extension specialist.

On Saturday, the Helms described their sales procedures and Dr. John Frampton of NCSU updated attendees regarding disease-resistant Leyland Cypress cultivars and the status of the Virginia Pine Seed Orchard. Dr. Jill Sidebottom, Dr. John Frampton, and Brad Edwards led a session on insect identification & control procedures. Other topics that were covered during field demonstrations were planting & pruning techniques, field layout & spacing, individual pricing, and an open panel discussion. 🌲





Watauga County Christmas Tree Association Field Day

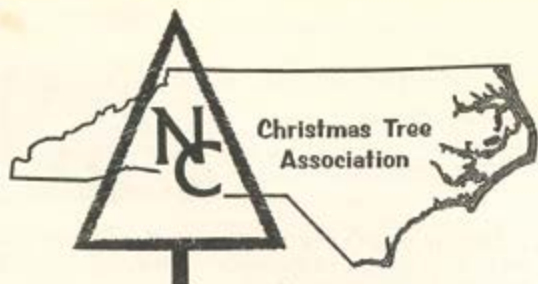


The Watauga County Christmas Tree Association held its 38th Annual Mountain Greenery Meeting in August. Joey Clawson hosted the association at Clawson's Choose and Cut. Association members toured Steve Stanley's Fraser fir seedling production operation at Jim Bryan's "retired" choose-and-cut farm in Meat Camp. Steve discussed irrigation and other management issues as well as seedling demand. From there, participants toured Jeff Brown's farm. Jeff and his son, Daniel, received funding from the WNC AgOptions program to help construct a new building which will serve as a base-of-operations for their growing choose-and-cut business. Also, at the Browns, Jeff Owen provided an overview of the FirstRate herbicide trials that he has been working on with Dr. Joe Neal. Additionally, Isaac Hodges, Watauga County Soil & Water Conservation Technician, gave information on the cost-share programs available through the state for on-farm soil conservation efforts. Jeff and Daniel Brown used the program to help reestablish clover in sections of their farm. After the farm tour, association members returned to Joey's for a picnic cookout and to elect new board members for 2019-2020. It was also announced that the Watauga County Tourism Development Authority awarded funding to continue the association's county marketing efforts for choose-and-cut promotion. Funding will be used for online and print marketing and also to cover the start-up costs for the VisitNC Farms App. This mobile app project is a joint marketing effort between the NCDA Agritourism & Marketing Division, Avery County, and Ashe County, and will include farms within the three-county High Country region allowing consumers to access farm info via a convenient phone app.

The growers in Watauga County organized the first mountain incorporated association to advance the interests of the nursery industry in February, 1980. 🌲







limbs & needles

PUBLISHED BY THE
N. C. CHRISTMAS TREE ASSOCIATION

VOLUME 6

NUMBER 1

FEBRUARY, 1978

BOONE LIVE CHRISTMAS TREE PROJECT

In November, 1977, for the first time, the Town of Boone, county seat of Watauga County located in the high South, atop the Blue Ridge, set up a beautification and Christmas tree project. Boone merchants, farmers and professionals had input in the project. Since the average elevation of Boone is 1 kilometer (3,333 ft) and Fraser Fir grows well in the area, this was the chosen tree.

Seventy-five gallon wooden barrels were obtained from the Jack Daniels Distillery in Tennessee, cut and a planting container improvised. Seventy 4 to 5 Ft. Fraser Fir were purchased from growers in the Vilas community (located 6 miles west of Boone.) These trees were set in the wooden barrel containers and topsoil from the Watauga County land-fill was used to fill around the B & B Fraser Fir in the wooden barrels.

Seventy different Boone businesses purchased these containerized Fir at \$20.00 each and the trees were spaced equidistant along the main business street in Boone. The trees were fully decorated for the Christmas season and will remain throughout the year in Boone as beautification specimens. The trees will be fertilized, watered, and cared for according to a suggested sheet made up by the Watauga County Agricultural Extension personnel.

Gene R. Brewer
County Extension Chairman
Watauga County



Lois Greene decorating a live Fraser



Sgt. B. U. Ehlers & Patrolman Richard Aldridge, Boone

1978 Information on February Christmas Tree Winter Meeting

by William T. Huxster, Jr., Leader, Forestry Section
N. C. Agricultural Extension Service,
North Carolina State University

County Extension personnel supported by specialists and researchers at N. C. State University, cooperating with the N. C. Christmas Tree Association and the N. C. Division of Forest Resources and other agencies are conducting night meetings in 9 counties for new growers and three multi-county day meetings for both new and experienced growers. Large increases in new growers ordering Fraser Fir and other species of Christmas trees have created a need for restructuring previous meeting agendas.

continued on page 6



Fraser Fir Plugs For Sale:

Plugs \$0.75 each
P1 \$1.25 each
P2 \$2.00 each

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please call John:
954-464-6618**

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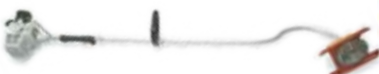
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Calendar of Events

November 2018

White House Christmas Tree presented by Larry Smith, Mountain Top Fraser Fir

November 2018

Vice Presidents Residence Tree presented by Rusty & Beau Estes, Peak Farms

January 22, 2019

Valle Crucis Leadership Retreat/BOD-FFPC Meeting

January 23, 2019

2019 Budget Committee Meeting (Executive Committee Only)

February 20, 2019

Joint BOD/FFPC Meeting

Meadowbrook Inn, Blowing Rock

February 21 & 22, 2019

Winter Meeting

Meadowbrook Inn, Blowing Rock

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(2-2, PL+2).....	8-15"	\$135.00	\$900.00
(P+2, P+3)	12-22"	\$155.00	\$1050.00

CANAAN FIR

Age	Size	Per 100 Rate	Per 1,000 Rate
(2-1, P+1).....	8-14"	\$115.00	\$790.00
(P+2).....	10-18"	\$145.00	\$980.00
(P+2, P+3)	12-22"	\$155.00	\$1100.00

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