



Christmas Tree Newsletter

July-August 2016

inside:

2

NCSU Specialist Activities at Mountain Research Stations

3

Activities at Mountain Research Stations
BOLO Mites

4

Henry Fowler Remembered continued

Henry Fowler Remembered...

By Dan MicKinney

We were all saddened by the unexpected passing of Henry Fowler this past harvest season. I have worked with Henry for the past several years. We co-chaired the Research Committee and conducted raffles and auctions to benefit research for NCCTA members.



There was no one who worked harder or longer to get the job done than Henry. He was usually the first to arrive to help set up and then was the last to leave after helping clean up.

I dare say a lot of you never knew all that Henry did and contributed. That was the way he wanted it. There is an old saying: *Still water runs deep*. That was Henry. He worked hard to get the job done, but shunned the limelight. He would just say "This is what I think we should do... this is how I think we should do it. Now, you tell them." He didn't want any public acknowledgment.

If I had to describe Henry in two words, I would say "dedicated" and "tenacious":

DEDICATION

I can't remember Henry ever missing a meeting. When we called research meetings, I would tell Henry that we can do this by way of a telephone conference call since it is a long way from Jackson County to Boone. Henry would always say, "No, let's have it at the NCCTA office. I like to look at people when I talk to them!"

TENACITY

When Henry got an idea, he wouldn't let go until it was addressed and discussed. I would say "Henry, we've already brought this up and discussed it." He would say "well, let's bring it up again, they must not have heard us."

His tenaciousness at times reminded me of my favorite dog's behavior. She was a Jack Russell, named Sunny. One time Sunny found a neighbor's goat tied in his backyard. There was just something about that goat. She locked onto the goat's leg and wouldn't let go. Round and round that pole they went. Eventually I had to pry her jaws open with a stick to get her to let go of that goat.

Reprinted with permission from the NCCTA & continued on pg. 4



Christmas Tree Production – Jeff Owen

White Pine planting study: Many landowners plant white pine for timber, but also sell greenery leases when the trees are young. At times, these different purposes may be at odds with the potential to reduce production of either use. A 3.4 acre study was established in 2015 to compare 6-by-6 and 12-by-12 stocking models along with natural versus semi-sheared growth habit. The goal is to determine which treatment produces the most tips and still leaves trees in adequate condition to produce saw timber. This 10-year study will provide information that can guide future forest service cost-share policy.

Glyphosate Alternatives study: Trees at Upper Mountain Research Station and Mountain Research Station in Waynesville have been used in a herbicide phytotoxicity study in 2016. Five different treatment timings are being applied to the sides of Fraser fir trees. Three and four rates of Firstrate, Harmony, 24-D Amine, Weedone (solvent-free 2-4D Ester), and Butyrac (24-DB) are being applied at two week intervals from the end of April through the end of June. The purpose of this study is to identify Fraser fir tolerances of these different products. Of the three 24-D products, primary interest is in Butyrac which is labeled for clover forage. By using alternative herbicide modes of action, we are more likely to control weeds that are already resistant to glyphosate. Firstrate and Harmony have the same mode of action and face their own weed-resistance issues. Butyrac adds a different mode of action from these products. By moving forward with a package of treatments that can be alternated from year to year, a sustainable herbicide program can be developed that preserves current IPM goals. Results will be presented to growers at the fall NCCTA farm tour.

Postharvest research: Christmas trees grown at the Upper Mountain Research Station will be used in 2016 postharvest research studies. Building on results observed in studies over the last 3 years, work in 2016 will focus primarily on pallet storage. New for 2016, a forced air cooling study will be conducted with the hopes of drawing down the temperature of trees in pallets. The treatment is based on forced air cooling systems used in vegetables and fruits. This work is supported by a \$103,000 2-year NCDA&CS Specialty Crops Block Grant.

Fraser Fir IPM – Jill Sidebottom

Twig Aphid Control with Sivanto: To continue evaluations of Sivanto, trees were treated on April 13, 2016 with either a low or high rate of Sivanto or left untreated. These treatments were overlaid on the treatments from last year where either Dimethoate, Sivanto, Endeavor, or Neem oil were used. Aphid counts, needle curl, predator counts, mite flare-ups, and *Encarsia citrina* (the elongate hemlock scale (EHS) parasitic wasp) counts are on-going. Initial results indicate that a high rate of Sivanto applied early gives satisfactory twig aphid control and helps establish predators/parasites that will continue to control EHS. Complete results will be reported at the NCCTA summer meeting.



Elongate Hemlock Scale Control: In 2015, trees were treated for elongate hemlock scale using either a trunk application with Safari, Movento, or the insect growth regulator, Talus. Trees will be evaluated for EHS this summer and results reported at the NCCTA summer meeting. Control will be monitored into next year

Activities at Mountain Research Stations - 2016

NCSU Christmas Tree Genetics Program – John Frampton & Anne Margaret Braham

Fraser Fir Clone Bank *Objective:* Long-term preservation of genetically diverse and superior selections made from the 2000 Fraser Fir Progeny Test Series. Selection was based on growth, quality and \$ value as Christmas trees. Post-harvest needle retention evaluations are underway. Two grafts of each of about 300 selections were established and are also replicated at the Mountain Research Station. Control-pollination matings among these selections for next-generation testing have started. Established 2007 & 2008.

Fraser Fir Seed Orchard *Objective:* A joint venture of the NCDA & CS and NCSU to provide genetically improved Fraser fir seed to the Christmas tree industry. Canaan fir rootstock was planted during April 2016. Scions from 30-50 selections from the Fraser fir clone bank will be grafted in 2017. Significant cone production anticipated around 2027.

Progeny Testing of Clones of the N.C. Premium Fraser Fir Seed Coop's Orchard: *Objective:* To evaluate progeny from the 30 clones in the NCPFFS Coop's orchard for growth and Christmas tree quality. Various other fir species are also mixed into the planting. This material is also being used to develop DNA techniques to identify parentage in Fraser fir. Established 2015.

Hybrid Fir Trial *Objective:* To evaluate survival, growth and Christmas tree quality of hybrids involving Fraser fir made as part of collaboration with colleagues at the Czech University of Life Sciences. Most hybrids are ½ Fraser fir, ¼ Greek fir and ¼ Cilician fir. Established 2015.

Turkish and Trojan Fir Trials (n=2) *Objective:* To evaluate the survival, growth and Christmas tree quality of families of Turkish and Trojan fir from various elevations and geographic regions. One trial is part of a nation-wide evaluation of the same families by the Collaborative Fir Germplasm Evaluation (CoFirGE) Project. Both trials are replicated at the Mountain Research Station. Established 2013 & 2014.

Pest Treatment Window: July Through September

Stages of pests Most pests continue to be very active through the summer, though BTA and HRM are not.

- **RBM** — Mites are actively feeding and reproducing. Mites are residing in the newly formed rosette bud and will remain there until bud break of next year.
- **EHS** — All stages present. Another flush of white as the males pupate and emerge is seen in August.
- **BWA** — Adults laying eggs. All stages including eggs, crawlers, nymphs and adults present.
- **BTA** — Eggs.
- **Cinara aphids** — Cinara aphids may be active.
- **SSM** — All stages present including eggs, immatures, and adults.
- **HRM** — Typically inactive as it is too hot except for the highest elevation fields.
- **Predators** — Most predators are active and commonly found.

Advantages to applications during the summer This is a good time to control EHS. Cinara aphid control for trees to be harvested can begin in August, so combing control of those two pests can occur then.. Twig aphid control for the following year with bifenthrin products is better later in the summer as well.

Disadvantages to applications during the summer It is hot, making it hard for the applicator to safely spray and wear the appropriate PPE. Predators and pollinators are both very active and can be impacted by pesticide applications.

For more information on **Mite Control** go to: <https://christmastrees.ces.ncsu.edu/christmastrees-focus-on-mite-control/>

Henry Fowler Remembered... continued

There were so many things I learned from working with Henry. Maybe the most important one was that there may be many ways to get something done, BUT, according to him, his way was the best and ONLY way.

Henry was a unique person. He was the epitome of a true Mountain Man and a real contributor to our industry. Again, we are all saddened by his passing and will miss him and all his hard work and dedication to the industry. He will be greatly missed but never forgotten!



Daughters Christy(L) & Liane (R) accept Henry's Outstanding Service Award.



Henry with his grandchildren



Growers Ryan, George, Henry and Scotty (L to R) 2013 IPM Series



Sincerely,

**Christy Bredenkamp, Extension Agent
Agriculture-Horticulture**

