



Tree Line



New Hampshire-Vermont Christmas Tree Association

June 2016

Special points of interest:

♦ Association Directors

Anyone interested in serving as a director of the NHVTCTA is encouraged to speak with Dan Beloin, president, at the Summer meeting, or to email him at belointreefarm@gmail.com

♦ Fall Meeting — Save the Date

The NHVTCTA Fall Meeting will be held on Saturday, September 24, at Weir Tree Farms in Colebrook, N.H.

♦ Future Meeting Sites

The NHVTCTA is always looking for possible sites to hold our Summer and Fall meetings. You don't have to have the perfect farm: there's no such thing, and besides, any "issues" on your farm just give the group more to talk about and learn about. We plan the agenda planning and help with the logistics; all you need is a willingness to host your fellow farmers for a day.

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Summer Meeting at Paxton Greens

The Summer meeting of the NHVTCTA will be held on Saturday, June 25, at Paxton Greens Tree Farm in Cuttingsville, Vermont.

After a discussion of the history of the farm by Russell Reay, the regular association business meeting will be held.

Next will be an open discussion among members about "What Words and What Does Not Work." This should be a great opportunity to learn, so bring you questions and also your willingness to share your own experiences.

Dr. Richard Cowles from the Connecticut Agricultural Experiment Station will be on hand to talk about new research he's conducted on the connection between phytophthora root rot and lower soil pH. (A preview of his research can be found on page 6.)

After lunch, host Russell Reay and Ron Kelley, retired

Vermont Forest Insect and Disease Specialist, will lead a walking tour of the farm.

Among the many topics that will be highlighted and discussed along the way are armillaria identification and control, successful root aphid control, rhizosphere identification and control, the reasoning behind tree species selection, bud development, alternative herbicide strategies, and alternative shearing methods.

Also in the afternoon will be a session on bow-making and other decorative ideas will be led by Marlene Downey of Downey Tree Farm and Nursery.

Registration for the meeting (without a guaranteed meal) is available on-site if you have not already sent in your registration form.

Contact Jim Horst at (802) 447-0660 with questions or for more information.

NCTA Update

A reminder that the NCTA has streamlined its membership options and created a simpler membership application process. Dues for individual growers are now just \$99.

With the new (and independent) Christmas Tree Promotion Board focusing on the

marketing of real Christmas trees, the NCTA will still be representing the industry when the media or customers have questions; monitoring and responding to legislation, such as fire code issues; and helping to disseminate educational information to growers. Join today!

President's Message

Hi all,

A year ago I started my Presidents message with this sentence: "This past winter was tough on Christmas trees. Deep snow, long periods of extreme cold and wind and two late season snowstorms that kept us from starting our Spring season work until mid-April."

What a difference a year makes! Even with a long cold start, 2015 broke the record for the warmest annual average temperature ever recorded. Now it seems 2016 may follow that trend. Jim Horst reported some severe injury on some farms in southern Vermont and the

Capital Region of New York, due to an extreme temperature changes in late winter/early spring. More discussion will follow at the June meeting at Russ Reay's Paxton Greens tree farm on June 25 in Cuttingsville Vermont.

On June 2, 2016, the U.S. Supreme Court wrote a unanimous decision giving landowners more leverage to contest rulings by the Army Corps of Engineers when they rule that a part of your land is a wetland area. Formerly the Corps rulings, known as "jurisdictional determinations," were dismissed when challenged in court because the Corps argued that the rul-

ings were not "final agency actions." Now when you are told that you can't plow your field or fix a ditch without a federal permit because there is water in it you can have your day in court.

The trees are looking good this year. No frost damage and the drier weather this spring has helped alleviate the Rhizosphaera problem. Then again, the drier weather has ushered in a spider mite problem. Now is a good time to remember that patience is a virtue. See you all at the meeting!

*Daniel Beloin,
President*



New Hampshire-Vermont Christmas Tree Association



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Copies of the Association bylaws and policies are available to members at any time by contacting the Executive Secretary.

2016 Tree Line Publication Schedule

Issue	Ad/Submission Deadline
January	-
June	-
September	Sept. 2

Christmas Tree Promotion Board News

A reminder that, beginning with last year's sales, all Christmas tree growers in the U.S. are required to pay an assessment of 15 cents per tree sold to the Christmas Tree Promotion Board, an entity created with industry support to "manage an effective program of promotion, research, evaluation and information designed to strengthen the Christmas tree industry's position in the marketplace."

Like other industry promotion boards (dairy, beef, etc.), the Christmas Tree Promotion Board is governed by a regulation from the U.S. Department of Agriculture and all industry members are required to participate (those selling less than 500

trees per year can file for an exemption).

For growers who have not received a letter from the Christmas Tree Promotion Board regarding payments, you can enter your contact information online at: <http://www.christmastreepromotionboard.org/industry-information/>

Those who have not paid their assessment for 2015 sales can download a remittance form on that same site (just scroll up a little).

The Christmas Tree Promotion Board recently announced that, through an extensive and competitive selection process, it has selected the firm Concept

Farm as its creative agency. The Concept Farmers (as they refer to themselves) will develop a new advertising campaign for 2016. (For comparison purposes, think of the Got Milk? campaign used by the dairy industry or the Beef...It's What's for Dinner campaign used by the beef industry).

Concept Farm is an integrated, independent advertising agency founded in 1999. Over the last 16 years, Concept Farm and their clients have reaped a bumper crop of creative and efficacy accolades.

Some of their current clients include: Aruba Tourism, ESPN, The Empire State Building, and Bowlmor AMF.



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Removing Stumps: Chainsaw or Stump Grinder?

By Tom Lang, Balsam Acres

Those of us Christmas tree growers who cut our stumps have a couple of options. Larger growers often use large, rather expensive stump grinders, but how about the small cut-and-choose growers? And why cut the stumps anyway?

Well, here at Balsam Acres, where choose-and-cut is the program, we like to cross mow once a year for aesthetic purposes. We also feel leveling the stumps is a safety issue. We don't want folks tripping on the stumps, especially the elderly. But it just doesn't make economic sense for smaller growers to use the larger grinders. So we have always chosen to get out the trusty chainsaw, clean it up, sharpen it and begin the arduous task of kneeling at each stump, cutting just above ground line. We are able to cut 50 to 75 stumps before we need to stop, clean the saw, sharpen it, and start all over again. This procedure gets old real fast and is real tough on chainsaws

Occasionally in the past we received promotional literature from dealers and drooled over the idea of using a stump grinder. But the relatively high price of the available grinders discouraged us and we continued on in our time honored tradition of using chainsaws to cut our stumps. The real problem has been that we can't cut them as low as we'd like, plus frost tends to heave some of the stumps up even after they've been cut. If the ground is crowned in a given row the problem is compounded. Then we cross mow and, ker-wham, we



Balsam Acres found a small stump grinder to be an easier, faster and less expensive option for removing stumps at a choose-and-cut farm.

hit a stump with our mower blades. Several things can happen besides the stream of expletives which almost always accompany such an event. If the mower is belt-driven you might get lucky and drive away unscathed or you might bury the blade in the stump to the point you can't get free without axe and shovel and a lot of time spent in a non-productive manner. If the mower is not belt-driven you just might have to get out the ole pocket book to pay for an expensive drive shaft repair and a lot of lost time.

Encountering these problems year after year made us reconsider the use of a small stump grinder. This past winter we received a flyer from DR Power Equipment in Vergennes, Vermont, offering small stump grinders at a discount. We looked on the internet for like

equipment and compared what we found to the DR Power Equipment offering. DR Power Equipment won because of price, number of grinder teeth, engine size and tire size. And now that we've had a chance to use it, we are ecstatic with our purchase.

Not only does it remove the stumps much more thoroughly than a chain saw, it does so at a substantially lower cost in a much faster time. In 2015, we hired help to cut 500 stumps with a chainsaw at a cost of \$0.95/stump. Per-stump costs were as follows: labor - \$0.48, saw maintenance - \$0.41, capital costs - \$0.06. In 2016, we hired help to cut 1,100 stumps using the stump grinder; our per-stump costs were as follows: capital costs (assuming a 15-year life for the grinder) - \$0.11, maintenance costs - \$0.025, La-

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Chainsaw vs. Stump Grinder (continued)

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bor - \$0.245. The total per-stump cost using the grinder was \$0.38, or \$0.57 less per-stump than by using a chainsaw. We estimate our average costs over the next 14 years to be \$0.75 per stump broken down as follows: capital costs - \$0.23, maintenance - \$0.25, labor - \$0.27.

There was also a time savings with the grinder. In 2015, we cut 500 stumps in 19.5 hrs. with the chainsaw, which was 2.3 minutes per stump. This year we cut 1,100 stumps in 18.5 hours, which is almost exactly 1 minute per stump.

The only problem encountered was the drive belt had to



be replaced after approximately 500 stumps. The new drive belt has ground 600 stumps and is still in good shape. The operator, our son Roderick, became quite proficient in the use of the stump grinder and was averaging over 70 stumps per hour at the finish of stump removal. The grinder weighs about 125 pounds and

moves quite easily from stump to stump.

Balsam Acres is quite pleased with this operations innovation and would certainly give the “thumbs up” to any small grower considering the purchase of this size stump grinder. DR Equipment offered three different models. We chose the Premier model with tow bar.

Editor's Note: Thanks to Tom for sending in this report. We're always on the look-out for these kinds of reviews. If you've used something new or tried a new way of doing things, consider taking a few minutes to share the information in Tree Line, it's a great way for us all to learn.

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Is pH the Key to the Puzzle?

Reprinted with permission from Country Folks Grower (www.cfgrower.com), Oct. 2015. Attend the NHVTCTA Summer Meeting to learn much more on this topic from Dr. Richard Cowles.

By Bill and Mary Weaver

Your worst nightmare as a Christmas tree grower could become a dream come true for the right researcher. Don't suffer in silence. Bend the ear of a researcher. You and a lot of other growers with similar problems, might be glad you did.

A Connecticut Christmas tree grower had a "nightmare" field. Every native fir he planted in it died. Fortunately, he mentioned his problem to researcher Dr. Richard Cowles. Cowles took a look at the field. "I'd been asked a year before the CoFirGE trials [Cooperative Fir Germplasm Evaluation project] started to work on this problem by the Connecticut Christmas Tree Growers Association (CCTGA)," he explained. "It's unusual to find a field so relia-

bly infested, wall to wall, with phytophthora. We did a test planting of native (Fraser and Canaan) firs, along with Turkish and Nordmann firs.

At the end of 4 years all the Fraser fir were dead and the Canaan fir were suffering from the symptoms of soon-to-be-terminal Phytophthora root rot." Following that trial, Cowles viewed the field as pure gold, as it provided a research opportunity to test ideas for protecting trees from Phytophthora.

It's still early in the game, but so far, some of his theories appear, as he puts it, "to have legs." One factor being tested is to turn on the trees' ability to protect themselves. The other idea is to drastically lower the pH of the soil, to make conditions more favorable for the tree than for the disease.

Tom Rathier, a retired soil scientist and the current president of the CCTGA, had experimented with this in a well-drained field with no Phytophthora problems, just to see



Dr. Richard Cowles

how low a pH fir trees could tolerate. Using sulfur, he took the soil pH down to an extremely acidic pH of 2, and the trees grew fine.

"This makes intuitive sense. Where do fir trees grow naturally? On mountain tops with thin, acid soil." Fraser firs in North Carolina naturally grow in mountain soils with a pH that can be around 3.5. "The worst Phytophthora problems I've seen have been in fir trees planted in fields that had previously been planted in corn. These fields are typically limed to a pH of 6.

"Zoospores produced by Phytophthora have flagellae and swim through the water-filled soil pores to reach new trees to infect. Conveniently, zoospores are NOT tolerant of highly acid soils." Some other factors are at play at a very low pH that could benefit the trees. "A general rule of thumb is that the lower the pH, the fewer the organisms that can survive in that soil. Low pH may limit activity of

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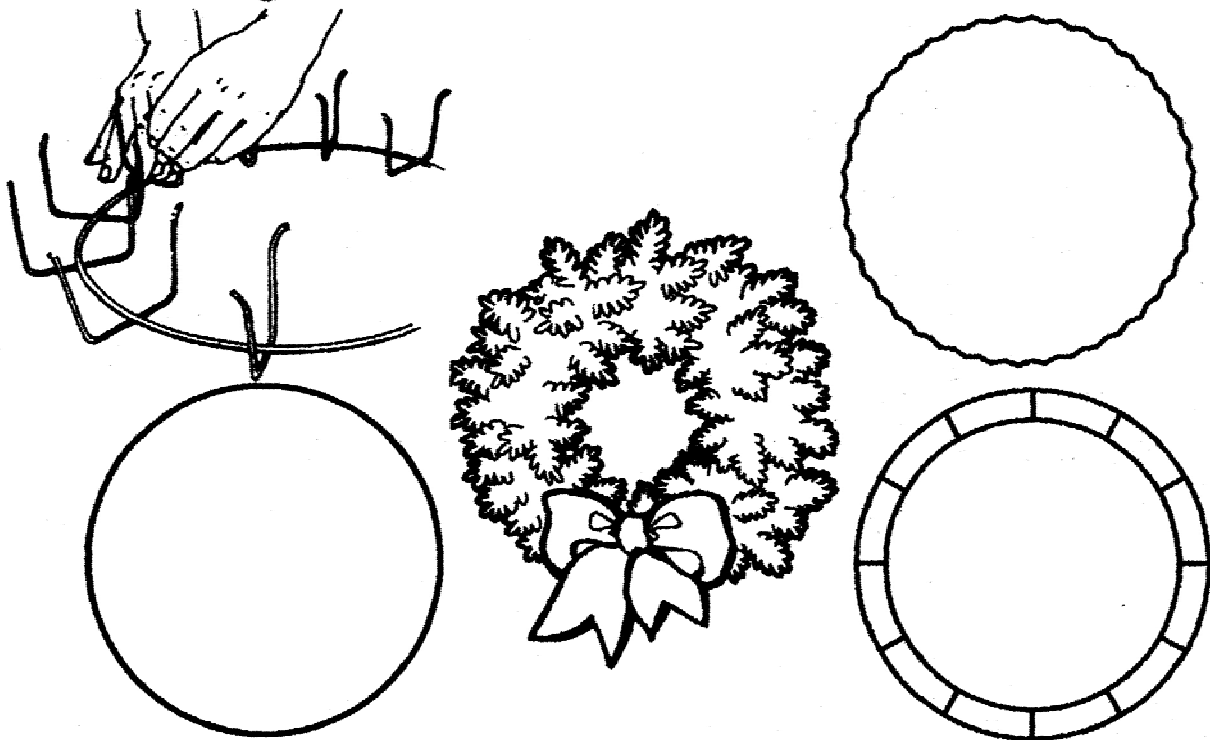
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Soil pH and Phytophthora (continued)

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nematodes that open wounds in roots, which may encourage infection by root rot organisms.”

To Cowles, it all made sense. He'd just needed a chance to do the experiments to test his hypothesis. “By lowering the soil pH with sulfur, we have the opportunity to create the conditions in which the fir trees will grow and thrive, but the Phytophthora cannot.”

The nightmare field gave him that opportunity. Using this “gold mine” of an infested field, he didn't need to inoculate his trees with Phytophthora as researchers in other areas did. The wall-to-wall Phytophthora in the field took care of that.

Instead, his first step the

year before planting was to add sulfur to the soil to lower the pH from its current nearly neutral pH of 6.2 to a very acidic pH of 4.

He used pelletized sulfur. “Even with pelletizing, the sulfur dust gets loose and is a strong irritant to skin and eyes, and is difficult to launder out of clothing. The amount of sulfur needed is determined by the soil type and texture. I relied on the expertise of Tom Rathier to help me with that.”

After the sulfur was applied, it was incorporated into the soil with a rototiller so it would reach the root zone. The sulfur had 6 months, including the winter, to break down and activate in the soil before the

trees were planted. “At planting, we could still see bits of sulfur, so we may not have seen its full effect yet when we planted the fir trees. However, the soil now has a pH of 4.

“We are comparing Fraser firs, which have no genetic resistance to Phytophthora, and Canaan firs, which have some resistance. We also tested a combination of root dips that we hoped might turn on the trees' self-protective mechanisms to fight Phytophthora infection. Along with the sulfur treatments to lower pH there are a total of 28 treatment combinations in 23 replicates, 644 trees in all.

“We're taking measurements on each tree. With a fac-

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torial design experiment like this, you can tease apart the various factors and determine very quickly what sorts of changes are making a significant difference.

“After rating these trees in late summer, the significant statistical results practically knocked me over. I know it’s early in the experiment. I should only crow when the trees are 6 feet tall and salable in this ‘impossible’ field. But it is already clear that drastically lowering the soil pH by applying and incorporating sulfur is making a tremendous difference in the health of both Fraser and Canaan firs in their first year following planting, and this improvement is consistent with reduced root disease.”

Also, the root dip with potassium phosphite benefitted the very susceptible Fraser firs, but not the less susceptible Canaan firs in the first year. If all this holds up over time, it may be that the Fraser firs will benefit later from a basal bark spray with the same material, to continue turning on the plants’ immune response.

In an already-planted field, a surface-only application of sulfur to lower the pH may take 3-4 years to show a difference, but Cowles and Rathier have already seen such a difference in a field of Fraser fir that was suffering from interior shoot discoloration. “You see this frequently with Fraser fir. Most growers will be quite familiar with the syndrome.

“I call it ‘poor root function syndrome.’ There’s great shoot growth on the outside of the tree, but if you go even slightly inside the tree, the less dominant terminal shoots look off-color – even white or brown. The only solution used to be cutting down the trees and throwing them away.

“We tested the soil around each tree, and found that the lower the pH, the better the tree.

“Based on this observation, the grower applied pelleted sulfur to the soil surface. Three to four years later, the trees are now gorgeous and salable. By improving the health of the root systems by lowering the pH, we improved the health of the whole tree.”



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Trading Post

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FOR SALE: Dyna-Digger Power Shovel, excellent condition. Paid \$1,295. Selling for \$450. Very firm. Call Dave at (603) 352-7892, Keene, N.H.

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FOR SALE: Kelco Basal Pruner Head and 6-ft wand. Used less than 1 hour, \$140, new \$321. N.H. *Pesticide Applicator Core*

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