

# Tree Line



New Hampshire-Vermont Christmas Tree Association

January 2007

## Special points of interest:

- ◆ **Membership Dues:**  
Dues notices were mailed out recently. If you have not already done so, please send your 2007 membership information to Jim Horst at the address on page 2 of this newsletter.
- ◆ **June Meeting:**  
The June meeting of the NHVTCTA will be held at Tom and Judy Lang's Balsam Acres farm in Worcester, Vt., on Saturday, June 23. More details to come in the next issue of *Tree Line*.
- ◆ **NCTA Annual Meeting:**  
The National Christmas Tree Association's annual Convention & Trade Show will be held this year in Bangor, Maine. Call (636) 449-5070 or visit [www.christmastree.org](http://www.christmastree.org) for more information.
- ◆ **Group Insurance Discount:**  
The NHVTCTA recently negotiated a group insurance benefit package for its members with the Co-operative Insurance Companies, based in Middlebury, Vt. Contact your local insurance agent for details.

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## Winter Meeting Preview

The annual winter meeting of the New Hampshire-Vermont Christmas Tree Association will be held Tuesday, January 23, at the Canadian Club in Barre, Vt.

You should already have received your meeting registration by mail, but it's possible to register at the meeting. The business meeting will begin at 9:30, a.m., including a fire safety update from President Mike Ahern.

Also on the agenda for the day: A Christmas tree pest update and forecast for 2007 by Ron Kelley with the Vermont Dept. of Forests and Parks; an update on Suregard, Westar and other Christmas tree pesticides by Richard Cole of Helena Chemical Co.; just in time for tax season, an update on depreciation, expensing and Section 179 limitations by

Peter Mollica of Christmas Trees of Vermont.

The afternoon will feature a discussion on planting stock: what's available, why are there periodic shortages, and what are the trends by Rick Eastman, Western Maine Nurseries, Larry Downey, Downey Nursery, and Jay Weir, Weir Tree Farms.

Lunch, in the form of the Canadian Club's roast beef dinner, will be available.

Remember to bring along a tree or wreath to enter in the Vermont Farm Show competition in the morning. For more information on that competition, contact Jon Turmel at (802) 828-3490.

For more information on the meeting, contact Jim Horst at (802) 447-1900.

## Update: Trees for Troops and NCTA

*By Nigel Manley*

Trees for Troops was a great success nationwide as well as in our home states. This year we took part in the national program sponsored by The Christmas SPIRIT Foundation (<http://christ-massspiritfoundation.org>) and FedEx, in cooperation with the National Christmas Tree Association. Growers and retailers donated trees to be distributed at military bases in the U.S. and overseas.

Nationwide, more than 12,000 trees were donated, which exceeded the goal set by over 1,000 trees. In New Hampshire and Vermont we gathered 423 trees from all over the two states, along with a lot of good publicity. Thank you to



In New Hampshire, Mtn. Star Farms provided the labor to load the trees with the 5th grade class at Bethlehem Elementary School. Everyone had a great time with the kids who had also raised over \$1,000 toward the program.

Bob White for coordinating the program in Vermont—he helped make the effort a huge success. For those who donated in New Hampshire, thank you—it was good to see everyone pull together.

# President's Message

Hello again fellow growers and related industry experts.

Reports suggest it was another good year. Some combination of lower supply (antidotal reports of some farms in our region scaling back) and high demand helped many to sell out.

Success can be attributed to many factors: the quality of the trees we grow and the superior products we make; the service we give; and, quite possibly, the renewed family closeness and desire to make family traditions mean more as the world changed on 9-11. With this momentum our state and national associations are working hard to capitalize on these trends.

Recently, at our January board meeting, Bob White passed along an astute observation he made when traveling both states during the selling season to pick up trees as part of the Trees for Troops program. He was very impressed to see all the energy and creativity our members are putting into their operations.

We don't need to look very far to see a good part of the reason our industry is prospering. Our membership fully involved in their communities, utilizing their individual talents, and home spun marketing prose with welder in one hand and a spreadsheet in another, has done our industry proud. I hope you see your involvement with this association, as I have, an important tool to help.

As a side note, who asks for our input when local and state fire code policies are adopted or established? Maybe its time to be more proactive on this issue? Restaurant owners are being told that Christmas trees are a danger and can flame up at any moment. I've been to a restaurant or two and I find it hard to understand as I've sat in front of open fireplaces seated at a table with a container of flammable liquid with a burning wick sticking out of it no less. Next to this flame are paper napkins cotton or paper table clothes and a table made out of, you guessed it, wood, without the roots even.

Maybe things need to be put back into perspective along with a return to common sense.

Best Regards,

*Mike Ahern, president*



## New Hampshire-Vermont Christmas Tree Association



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### 2007 Tree Line Publication Schedule

Issue	Ad/Submission Deadline	Mailing Date
January	December 22, 2006	January 15
June	May 18	June 1
September	August 24	September 7



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## Fertilizer Findings: A farmer's look at the fertilizer business in our area

By Bob White

*[Thanks to Bob for putting in the time to research a bit of back-ground on how the fertilizer industry works in our region, and for sharing the findings and his own personal fertilization experiences with fellow growers.]*

Fertilizer can generally be purchased at many farm stores in our region. However there are just a very few mix plants filling the bags. The retail farm stores have a long term close relationship with the mix plants so there is very little competition.

Is there money in the fertilizer business? The answer is yes. The markup is pretty high somewhere in the 3x to 4x range. However shipping expenses etc. are very high for those selling the fertilizer.

I spoke with several mix plants:

- Carovail in Salem NY

Green Mtn. in Milton, Vt.

- Carovail in Salem, N.Y.
- Twin State in Bradford, Vt.
- Synagri and The Coop in Quebec

Green Mtn. is a large company that does business all over New England and New York. They offer on-site advice for large customers; pay 50% of soil sample costs, ranging from \$6 to \$10; and they do custom mixes for orders larger than one ton. They have farm store resellers all over our region, pricing is protected. They do not handle bulk bags.

Twin State is a smaller supplier. They generally deliver in a 40- to 50-mile range but will travel to Colebrook or Burlington for large orders. Soil sample cost range is \$7.50 to \$15. They have no dealers. They also handle lime products and chemicals. They do handle the large bulk bags and give a \$25-per-ton discount off

bagged pricing.

Carovail is a large company with several plants in eastern mid-state New York. They will deliver to southwestern Vermont but are not interested in expanding further in our region. They commonly sell the large bulk bags.

Synagri and The Coop are both Quebec-based companies. They have a lot of knowledge about Christmas tree needs and are very helpful. Neither is interested in the U.S. market. Currently, pricing in Quebec is significantly higher than in the U.S.

I toured the Green Mtn. mix plant in Milton, Vt., learning that there are generally only 6 materials that make up most all blends.

- POTASH is the red stuff
- MAP (phosphorus): brown or Black

*continued on page 10*



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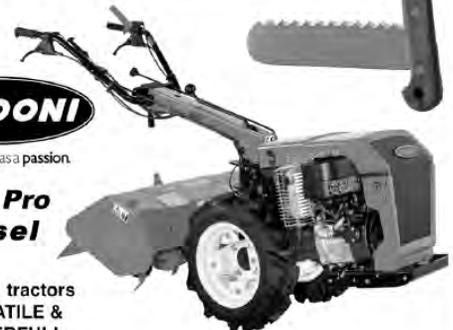
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## Reflections on weeds and shearing at the Tonry Farm

By John F. Ahrens, Plant Scientist Emeritus, Connecticut Agricultural Experiment Station Valley Laboratory, Windsor, Conn.

You missed a great event if you did not attend the combined 50th Anniversary New Hampshire/Vermont Christmas Tree Association meeting and the New England Christmas Tree Alliance on September 28-30, 2006. It was hosted by the Tonry Farm, in Hampton Falls, N.H. There were many accomplished speakers, a very fine alternative program, a wealth of exhibitors and a lot to see, hear and learn, plus amazing hosts!

Since the passing of her dad, Herbert, Abby Tonry and her mother, Alice, have done most of the work on this 200-acre farm, 60 acres of which is a choose-and-cut Christmas tree plantation of firs, spruce and some Douglas-fir. Until about two years ago, Abby did all of the shearing; a formidable task in itself. Alice, who is 85 years young, does all of the mowing and spraying on those 60 acres. Spraying includes treatments for needle cast diseases on Douglas-fir, balsam twig aphid on the true firs, white pine weevil and spruce gall adelgid, but the bulk of it involves spraying Roundup for weed management on the full 60 acres.

### On Weeds

Alice applies her herbicide with a Cub Cadet riding mower that pulls a trail-behind sprayer. The tractor is hydrostatic and she drives it "as fast as she can" between the rows, applying Roundup on half of a row with a single off-center nozzle. Why just one nozzle? Well, over the years the Tonrys have gradually changed from very narrow rows to more widely-spaced rows, so row widths now range from about 6 ft. to 8 ft., depending on the block of trees. Their ultimate goal is 7 ft. Alice's sprayer does allow for adjusting the boom width, but rather than doing this for each block, Alice prefers to spray just one side at a time. Her bad knee has something to do with that decision. This means a trip up and back for each row and lots of driving time.

The Roundup spray is applied low so only the lower foot of most trees is contacted. Spraying starts in late July and continues into late August. Only one spray of Roundup Original is applied per year. With no known speed, the volume of spray per treated acre is uncertain and we cannot call this a calibrated spray, but we know that a 0.85% solution of Roundup is applied (6.8 cups per 50 gallons). This is a low dosage, which explains why such early sprays have worked for them. In most cases the recent Roundup sprays were very effective and I could find no evidence of Roundup damage on the trees. Normally, to avoid injury to conifers, we do not suggest spraying before September 1 with 1% solutions of Roundup. Of course, as the concentration is reduced, so is the potential for conifer injury.

What are the shortcomings of this very economical approach to weed management? For one thing, some weeds do get away; i.e., goldenrod, which is Alice's nemesis right now. A separate

*continued on page 9*



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# CARINO NURSERIES



Seedlings & Transplants, Spring 2007 (Partial Listing)

## SPRUCE VARIETIES Age Size Per 50 Per 100 Per 1000

Colorado Blue Spruce ( <i>picea pungens glauca</i> ) Zones 2-7					
3 yr. seedlings	3-0	8-16"	31.25	50.00	250.00
4 yr. Seedlings	4-0	16-24"	43.75	70.00	350.00
4 yr. transplants	2-2	8-16"	87.50	140.00	700.00
5 yr. transplants*	2-3	10-18"	106.25	170.00	850.00
* 6 yr. transplants*	3-3	14-26"	125.00	200.00	1000.00

Norway Spruce ( <i>picea abies</i> ) Zones 2-7					
3 yr. seedlings	3-0	10-18"	35.00	55.00	275.00
4 yr. seedlings	4-0	16-20"	43.75	70.00	350.00
4 yr. transplants	2-2	10-18"	106.25	170.00	850.00
* 5 yr. transplants*	2-3	14-24"	125.00	200.00	1000.00
6 yr. transplants*	3-3	24-36"	156.25	250.00	1250.00

Serbian Spruce ( <i>picea omorika</i> ) Zones 4-7					
3 yr. seedlings	3-0	8-16"	43.75	70.00	350.00
4 yr. seedlings	4-0	12-20"	54.00	85.00	425.00
5 yr. transplants*	3-2	14-22"	125.00	200.00	1000.00

White Spruce ( <i>picea glauca</i> ) Zones 4-7					
3 yr. seedlings	3-0	10-18"	31.25	50.00	250.00
4 yr. seedlings	4-0	14-24"	43.75	70.00	350.00
5 yr. transplants*	2-3	14-20"	112.50	180.00	900.00

## FIR VARIETIES Age Size Per 50 Per 100 Per 1000

Fraser Fir ( <i>abies fraseri</i> ) Zones 4-7					
3 yr. seedlings	3-0	4-8"	37.50	50.00	300.00
4 yr. seedlings	4-0	8-15"	50.00	80.00	400.00
4 yr. transplants	2-2	6-12"	106.25	170.00	850.00
5 yr. transplants*	2-3	8-16"	118.75	190.00	950.00
6 yr. transplants*	3-3	16-24"	137.50	220.00	1100.00

Fraser Fir (Ayers Seed Orchard) Zones 4-7					
3 yr. seedlings	3-0	4-8"	43.75	70.00	350.00
4 yr. seedlings	4-0	8-15"	56.25	90.00	450.00

Bracted Balsam Fir ( <i>abies balsamea var. phanerolepis</i> ) Zones 3-6					
3 yr. seedlings	3-0	5-10"	43.75	70.00	350.00

Concolor Fir ( <i>abies concolor</i> ) Zones 3-7					
3 yr. seedlings	3-0	8-16"	50.00	80.00	400.00
4 yr. seedlings	4-0	12-20"	56.25	90.00	450.00

Canaan Fir ( <i>abies balsamea phanerolepis</i> ) Zones 4-7					
4 yr. transplants	2-2	7-14"	112.50	180.00	900.00
5 yr. transplants*	2-3	8-16"	125.00	200.00	1000.00

Douglas Fir (Lincoln N.F. New Mexico) Zones 4-6					
3 yr. seedlings	3-0	12-20"	43.75	70.00	350.00
3 yr. transplants	1-2	6-12"	81.25	130.00	650.00
4 yr. transplants	2-2	8-16"	106.25	170.00	850.00

Douglas Fir (Deep Mountain®) Zones 4-6					
3 yr. seedlings	3-0	6-12"	50.00	80.00	400.00
5 yr. transplants*	2-3	10-18"	118.75	190.00	950.00

Douglas Fir (Shuswap Lake Region, B.C.) Zones 4-6					
3 yr. seedlings	3-0	14-22"	50.00	80.00	400.00
4 yr. seedlings	4-0	20-30"	62.50	100.00	500.00
4 yr. transplants	2-2	7-14"	106.25	170.00	850.00

## PINE VARIETIES Age Size Per 50 Per 100 Per 1000

Scotch Pine (Lake Superior Blue II®) Zones 5-8					
2 yr. seedlings	2-0	5-10"	35.00	55.00	275.00

Scotch Pine (Belgium) Zones 2-8					
2 yr. seedlings	2-0	5-10"	32.00	50.00	250.00

Scotch Pine (French Highland) Zones 2-8					
3 yr. seedlings	3-0	8-16"	44.00	70.00	350.00

Eastern White Pine (Northern Seed Source) Zones 3-8					
3 yr. seedlings	3-0	6-12"	44.00	70.00	350.00
4 yr. seedlings	4-0	16-24"	56.25	90.00	450.00
5 yr. transplants*	3-2	14-22"	100.00	160.00	800.00
* 6 yr. transplants*	3-3	15-28"	112.50	180.00	900.00

Eastern White Pine (Southern Seed Source) Zones 3-8					
3 yr. seedlings	3-0	6-12"	44.00	70.00	350.00
4 yr. seedlings	4-0	16-24"	56.25	90.00	450.00
5 yr. transplants*	3-2	14-22"	100.00	160.00	800.00
* 6 yr. transplants*	3-3	15-28"	112.50	180.00	900.00

## OTHER VARIETIES Age Size Per 50 Per 100 Per 1000

American Arborvitae ( <i>thuja occidentalis</i> ) Zones 4-6					
3 yr. seedlings	3-0	7-14"	47.00	75.00	375.00
5 yr. transplants*	3-2	12-20"	118.75	190.00	950.00

Eastern Red Cedar ( <i>juniperus virginiana</i> ) Zones 2-9					
3 yr. seedlings	3-0	14-24"	50.00	80.00	400.00
4 yr. transplants	2-2	8-16"	87.50	140.00	700.00

Canadian Hemlock ( <i>tsuga canadensis</i> ) Zones 3-7					
3 yr. seedlings	3-0	6-12"	47.00	75.00	375.00
4 yr. seedlings	4-0	12-20"	56.25	90.00	450.00
* 5 yr. transplants*	2-3	14-24"	118.75	190.00	950.00
6 yr. transplants*	3-3	20-30"	150.00	240.00	1200.00

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## Research Report: Precocious cone production in Fraser fir

*Excerpted from a 2003 report on "Nursery, Landscape and Christmas Tree Research Projects and Educational Programs" published by Michigan State University. Authors: Bert Cregg, Jill O'Donnell and Mel Koelling. Funding: Project GREEN, Michigan Christmas Tree Association.*

### Introduction

Heavy cone production is a frequent problem in Fraser fir (*Abies fraseri*) Christmas tree plantations in Michigan. Unlike other members of the Pinaceae, cones of true firs (genus *Abies*) shed their scales in the fall and only the cone stalks remain. The cone stalks are unsightly and can reduce the value of Christmas trees or render them unsalable. The number of cones on a given tree varies from none or a few to several hundred. Besides reducing the aesthetic value of a tree, rapidly growing cone buds demand large amounts of the tree's energy reserves. In Christmas tree plantations, growers typically remove cone buds within a few weeks of cone bud-break. When cone buds are less

than 3 cm (1.25 inches) long they can be easily pinched off. However, cone picking must be done by hand and can require significant amounts of labor.

As part of an on-going program to optimize production of Fraser fir for Christmas trees in Michigan, we are investigating methods to eliminate precocious cone production. In this paper, the biology of cone production in firs, factors influencing cone production, and how these factors may be modified to reduce coning in Fraser fir are reviewed.

### Biology of cone production

The development of cones in firs occurs in a two-year cycle. In year one, buds develop on the current-year's growing shoots. Initially the buds are undifferentiated and may develop into vegetative (shoot) buds or reproductive (cone or pollen) buds. At about the time the shoots cease elongation, hormonal signals in the tree cause some of the developing buds to differentiate into reproductive buds. These buds continue to develop over the first year but cannot be readily distin-

guished from vegetative buds. In the second year, cone buds grow and develop rapidly before the vegetative flush.

Cones continue to mature and are pollinated in the summer, and the seeds are shed in the fall.

### Factors affecting cone production

Flowering in *Abies* appears to be even more inconsistent than in other conifers. While environmental and within plant control of conifer flowering is not completely understood, several factors are known to influence flowering. Our knowledge of these factors comes primarily from studies directed at improving flowering of conifers in seed orchard production. Study results indicate hormonal relations, growth patterns within the plant, temperature, water availability, nutrition, and tree size or age may influence cone production.

■ **Hormones – Gibberellins** are the hormones most consistently associated with flower production in conifers. Application of gibberellins increases flower cone production in a number of conifer species.

■ **Cone crop cycles –** Intervals between heavy cone crops vary from two to seven years for temperate members of the Pinaceae.

■ **Temperature and water stress –** Both temperature and water stress affect cone development. In the Pacific Northwest researchers increased flower production in an *Abies amabilis* seed orchard by erecting small clear plastic tents over the trees during the late spring and summer. Air temperatures inside the tents increased up to 14°F above ambient. Placing tents over the trees increased the average number of cones per tree from 3 to 8 to 22 to 24 compared to related treatments without tents. Water stress and root pruning are also used in seed orchards to enhance flowering.

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### Spring 2007 Price List

<b>Canaan Fir</b>	<b>P+1 1/2</b>	<b>12"+ up</b>	<b>.76e</b>
Fraser Fir	p+1+1 Ayers Roan Mt.	12" + up	.97e
Fraser Fir	p+2 Ayers Roan Mt.	12" + up	.91e
Colorado Blue Spruce	p+1½ Misty Blue	10" + up	.76e
Norway Spruce	p+1½	12" + up	.76e
Canadian Hemlock	p+1+1	12" + up	.97e
Concolor Fir	p+1½	12" + up	.76e
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E-mail: Laurarockis@msn.com

■ **Nutrition** – Flower production generally increases with improved nutrition, especially nitrogen and phosphorus. The form of nitrogen fertilizer is also important. Nitrate fertilizers may increase flower production up to ten-fold compared to ammonium sources.

■ **Tree age/ size** – Most conifers do not produce significant cone crops until age 15 to 45 years. Among North American firs, Fraser fir and balsam fir are considered the earliest to flower. In a test plantation near East Lansing, Michigan we observed cones on trees three years after planting as 2-3 seedlings (i.e., eight years from seed).

#### **Research approaches to reducing flowering**

Based on the developmental patterns of cones, we are investigating two approaches to eliminating cone production. First, we are evaluating the use of flower thinning agents commonly used

in the tree fruit industry. These caustic chemicals cause fruit tree flowers to abort. Wilthin and ammonium thiosulfate are two products presently on the market for flower thinning of fruit trees. In the spring of 2001 we initiated trials to evaluate the effectiveness of Wilthin to thin Fraser fir cones. Results from an on-farm trial in Ingham County, Michigan, indicated that Wilthin at a high rate (8%) stopped the development of over 60% of the cones on treated trees.

A second on-farm trial in Oceana County, Michigan yielded similar results in 2001. In 2002 and 2003, the experiments were repeated at the on-farm site in Ingham County. In subsequent trials, Wilthin and ammonium thiosulfate did not stop cone development and we observed significant needle phytotoxicity.

A second approach to eliminating cone production is to disrupt internal chemical signals that cause some undifferentiated

buds on the current year's shoot to become next year's cone buds. From research on promoting flowering in seed orchards, we know that a hormone, gibberellic acid (GA), increases cone production in many conifers, including true firs.

Several plant growth retardants used in the floriculture trade are GA inhibitors. These compounds retard growth of greenhouse crops by inhibiting GA synthesis or GA translocation.

Cone flowering in *Abies* is a complex process controlled by a variety of potentially interacting factors. Some standard practices in Christmas tree culture may contribute to increased flowering. The typically high level of fertility maintained by growers may promote flowering. It seems unlikely that a single approach will completely eliminate flowering.

However, growers may consider modifying cultural practices to reduce flowering, for example using ammonium sources of nitrogen rather than nitrate.

## Reflections on weeds and shearing at the Tonry Farm

*continued from page 6*

directed spot treatment with Roundup would have to be made during the growing season to control clumps of goldenrod and other weeds that grow too tall by late summer. And, because Roundup has no residual effects, a groundcover of some weeds is present most of the growing season. So, this is not a system for those who like to have their row bands free of most vegetation, especially early in the growing season, when competition for nutrients is important. Nevertheless, for the Tonry Farm the system has worked and is far better than allowing the weeds and brush to take over.

#### **On Shearing**

Patrick Downey, co-owner of Downey Tree Company in Lennoxville, Quebec, gave an excellent field demonstration and discussion of shearing Fraser fir. Patrick, the son of the legendary

Richard Downey, and his wife Linda, operate their own 3,500-acre plantation of quality balsam and Fraser fir, most of which are marketed in the U.S. Patrick shears Frasers (and balsam, too) in three stages. The first begins with hand clippers in June when all competing leaders (upright growth and top whorl branches with less than about a 45 degree angle) are removed at their bases and horns are removed in the top whorl. Laterals in the top whorl are headed back, trying to leave at least 8 inches on those laterals. The chosen single leader is not trimmed at this time, because, without upright competitors, it will straighten as the summer advances. This minimizes the need for tying leaders to make them straight.

The second stage starts in July, when side shearing begins. Trees scheduled for harvest are sheared more lightly than younger trees. Patrick's crews

use knives for side shearing. Shearing the sides early allows unsharpened laterals that are still expanding (growing) to fill out the tree and can provide a more natural appearance at harvest.

The third stage involves coming back in August or September to cut the leaders to their proper lengths. By this time leaders have straightened and produced heavy buds. Cutting leaders half-inch or so above a dominant bud is the goal. But leaders of narrow trees are cut shorter (approximately 6 to 10 inches) and leaders of wide trees are cut longer (12 to 14 inches).

Having sheared a few Fraser firs myself, I was impressed with Patrick Downey's logical and systematic approach to shearing.

One comes away from grower meetings, such as at the Tonry Farm, with many good feelings—increased knowledge, new ideas, stimulation, motivation, and fellowship. Who can ask for more?

## Fertilizer Findings

*continued from page 4*

- DAP: brown or black
- Urea (nitrogen): white
- Sulpomag or Kmag: crystal or orange
- Filler Materials
  - Lime Chips: white
  - Lime pellitized: brown
  - Gypsum: off-white

Fillers are generally only used on standard mixes to even out the weight between different materials. If fillers are used in your fertilizer you may want to know what type of filler it is and how much was used. Pellitized lime acts very rapidly to increase soil PH. You may want to ask for this if your PH is too low for your needs. The other two fillers have little effect as the chips are large enough so they breakdown over years. They are heavy to carry depending on how you spread the material.

Custom blends commonly have no fillers; otherwise they are the same exact materials just mixed to your weight specs. Other items, like slow release nitrogen and pellitized lime, can be added to custom mixes if desired.

### A few thoughts

Soil imbalances build up over years. Annual soil samples are a cheap way to help you identify what is changing and guide you over time.

If you are growing corn or maintaining a golf course, there is a lot of information available about how to feed them. There is very little published knowledge about feeding Christmas trees. The North Carolina Web site is pretty helpful for feeding Frasers. A few soils experts have knowledge about tree needs, but not many. Larry Ekhardt is one local expert who has been around trees for years and has spoken at several of our meetings. But if your soils are really out of balance any soils expert can help you get back in the ball park.

Gypsum, which can be used to increase calcium, can be very dangerous in low PH soils for Christmas trees. I won't make that mistake again. Lime can also be risky; good advice is to go slow over time when adjusting soil PH.

Urea is generally accepted as the most commonly used nitrogen source. Many other products have

been tried on trees with limited success and some problems. Urea is simple and easy, but acts rapidly.

Slow release nitrogen in Christmas trees often does not get enough heat under the trees to start working. Blue chip can generally still be found on top of the ground at my farm in December. And is about three-times more expensive. This product is made for golf greens that get full sun.

Mixing pellitized lime with fertilizer is pretty expensive but easy to apply. I buy bulk pellitized Hi Cal lime in Swanton, Vt., for \$60 per ton loaded in my pickup; it sells for about \$400 per ton in a mix. I was also able to purchase Hi Mag powdered lime bagged and delivered for \$120 per ton; it also sells for about \$400 per ton in a mix.

Pellitized or bagged lime spreads very easily with a Vicon, while bulk delivered powdered lime from a quarry is a real mess to work with once the pile is dumped on the ground.

Most farms apply Christmas tree fertilizer around bud break

*continued on page 12*

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Fall 2006/Spring 2007	Fraser Fir: Vermont Seed Source	2-0	\$0.20		
Fall 2006/Spring 2007	Fraser Fir: North Carolina Seed Source	2-0	\$0.20		
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## Fertilizer Findings

*continued from page 10*

time in the spring. A second small late summer application of about one ounce per tree of urea can be very helpful in giving your trees a deep green color for Christmas. Trees naturally dim down just like grass during late fall and winter months without a little something to snack on. Feeding in late fall scares a lot of growers with issues like split trunks, bud abortion, reflushing

in late fall, etc. I have not had any of these issues with an August or early-September light feeding on a choose-and-cut operation where trees are not cut until December. Wholesale trees that are cut in November may prefer a second feeding in mid-summer. I feed all trees twice per year, regardless of age.

This year the farm next to mine spread liquid manure the first week of December on half their hay field. This is not great

promotion for a choose-and-cut operation but the color change by Christmas time on the half that was spread was high. So the message is plants continue to take up and use nutrients most likely until they freeze solid.

There is no magic answers for Christmas tree feeding, and there are many horror stories, so spend some time and learn from a few other growers and the soils experts. If you get it right the results can be pretty impressive.

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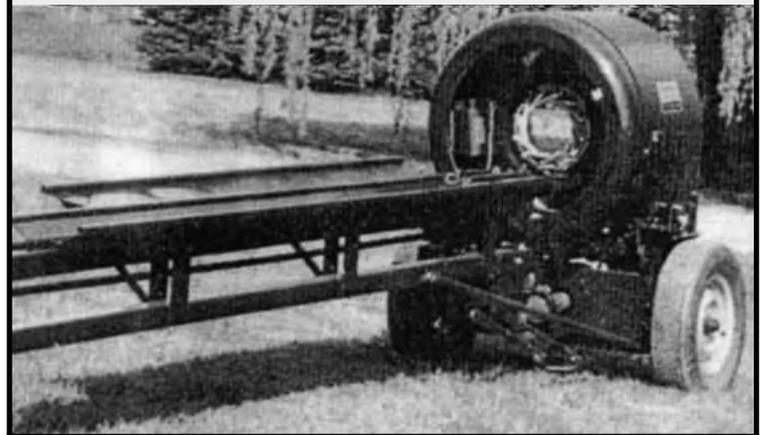
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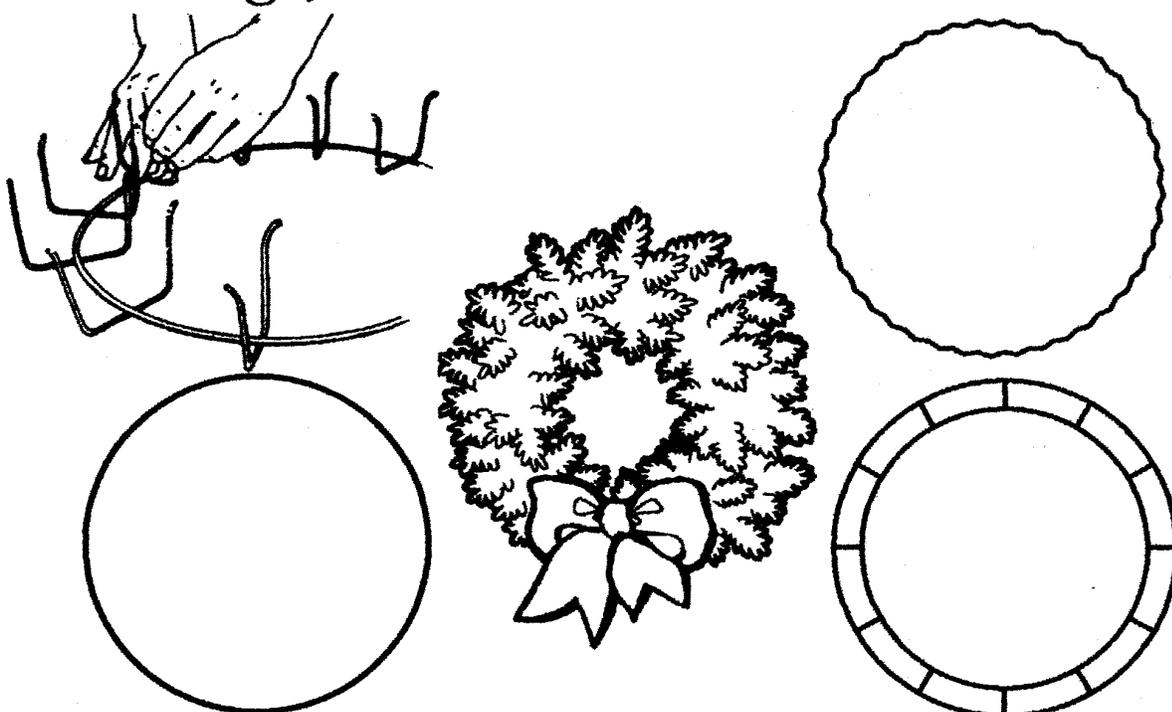
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## Editor's Desk

A number of newsworthy items have crossed my desk since the last issue of *Tree Line*.

### Scholarship reminder

May 15 is the deadline for scholarship applications. An applicant for the Association's 2007 \$1,000 scholarship must be a student at an accredited two- or four-year college or university in New Hampshire or Vermont. His or her major area of study must be in agribusiness or a natural resources field related in some way to the promotion of the Christmas trees and products industry. Preference will be given to an applicant who is a member of the Association, related to an Association member, or an employee of an Association member. An applicant's work history with Christmas trees and/or related products will also be strongly considered. For more information and an application form contact Bill Schmidt,

Scholarship Committee chair, at: Elysian Hills Tree Farm, 209 Knapp Rd., Dummerston, VT 05301. Telephone: (802) 257-0233. E-mail [elysian2@sover.net](mailto:elysian2@sover.net).

### International meeting

The 8th International Christmas Tree Research & Extension Conference will be held Aug. 12-18, 2007, in Denmark. The conference will be in English, and topics to be covered include: planting stock propagation and production; plantation establishment; crown regulation and other cultivation techniques; nutrition and fertilization; genetics and breeding; biology and management of pests and diseases; economics and management; and post-harvest quality. For more information, visit the conference Web site (<http://en.sl.kvl.dk/KurserOgEfteruddannelse/CTRE2007.aspx>) or e-mail Ulrik Bräuner Nielsen at [ubn@kvl.dk](mailto:ubn@kvl.dk).

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