



Tree Line



New Hampshire-Vermont Christmas Tree Association

September 2005

Special points of interest:

◆ **Group Buying Program:**
Orders for the Canaan fir group buying will be accepted through the fall meeting date, September 24. If you have any interest in this program, or need more information, contact Jim Horst ASAP. It is likely that these trees will sell out soon. The NHVCTA has available group buying opportunities on several items, including Christmas tree boxes, chemicals and other supplies. Contact Jim at (802) 447-1900 for info.

◆ **Tall Trees:**
Dave Parody (Keene, N.H., 603-352-7892) has 75 16-foot-tall balsam fir available for sale to anyone interested. Due to a miscommunication, this listing was omitted from this year's *Wholesale Buyer's Guide*.

◆ **50th Anniversary Meeting:**
Mark September 28-30, 2006, on your calendar. That's when we'll celebrate the 50th anniversary of the Association at The Tonny Farm, Hampton Falls, N.H.

Inside this issue:

<i>President's Message</i>	2
<i>Association Contact Information</i>	2
<i>Fraser Fir pH Management</i>	4
<i>Glyphosate Update</i>	6
<i>Editor's Desk</i>	7
<i>Invasives Control</i>	8
<i>Trading Post</i>	8

Fall Meeting: Mt. Anthony Farms

From our summer meeting in northern New Hampshire, we move to southern Vermont for our fall gathering.

Jim and Julie Horst will host the event on September 24 at Mt. Anthony Farms in Bennington.

Jim is the executive secretary of the NHVCTA and a Christmas tree grower for more than 30 years.

Mt. Anthony Farms sells all of its trees (around 5,000 a year) wholesale. A move away from the retail tree market—which not too long ago accounted for more than half of its business—was undertaken to allow Horst and his wife more time to spend at the children's activities.

Members should have received the meeting registration several weeks ago—it's not too late, so if you haven't done so already, send it in and plan to attend.

Topics to be covered include a comparison of Suregard vs. Princep by Dick Cole of Helena Chemical Co.; a discussion on shearing with emphasis on tops by Jim White, Bennington County forester, and other growers; a first-hand look at and talk about soil sampling, fertilizer placement and timing with Larry Eckhardt of Capitol Ag Consulting; and a tour of the "Field from Hell" by Jim Horst.

See you in Bennington.

NCTA Update: Marketing Tool Kit

A little Christmas spirit should have come to your mailbox in the form of the NCTA Marketing Tool Kit in early August. If it didn't, contact Rick Dungey at (636) 449-5070 and one will be sent to you right away. This creative and thorough kit gives you the seeds to grow your market share and profits to heights you've never reached before. Over 5,500 tool kits were sent to NCTA members this year to build on the tremendous success of last year's campaign that resulted in an astounding 15.8% increase in Real Tree sales. Though the PSAs in last year's kit were heard by over 50 million people and the Advergame was played over



285,000 times, the number of people who took advantage of the tool kit was not enough. With such success stemming from such a small number of participants, we know that the tactics in the tool kit work. Think of how your own profits will soar next year by using these methods in the tool kit. Because funds only allow us to provide a national foundation for the campaign, we need each one of you to promote Real Trees in your own community and boost Real Tree sales in 2005.

The tool kit provides you with materials about the National "Help Santa Find the Perfect Christmas Tree" Contest, Internet and viral Marketing, advertising, local PR, working with the media, and much more. Case studies

continued on page 12

President's Message

The more meetings I attend, the more tree farms I visit, the more growers I talk with, the more I am befuddled by growers who do not belong to our association and take full advantage of the breadth and depth of information which circulates throughout our membership and industry. I recently met a New York grower who vacillates between membership and not in his association. He described the organization as a social group for the old guard. He once heard a long-time grower declare that they shouldn't encourage new growers, because they were embracing competitors, and that it is not uncommon for growers to withhold their "trade secrets." He wasn't raving against his association, but responding to my unabashed praise of ours.

NHVTCTA has an old guard—they are the gray-haired (or bald) guys who have learned more from their mistakes than us young squirts. And have you noticed that the NHVT growers

who have amassed the greatest number of trade secrets, are the ones who are most eager to share them with everyone else? I'm not very eloquent in my support of the association, but you can understand my enthusiasm.

By now you have received your ballot for new officers and directors, and everyone voted—right? There was a pair of excellent candidates for vice-president, but did you notice that there were very few other contests? John Doe vs. Write-in isn't a very challenging choice. I urge all members to give strong consideration to offering their services to the association as a director. The task involves three meetings per year. Everyone hates meetings, but what is the alternative? For my part, I derive tremendous benefit from serving as an officer or committee chair, or as a committee member. I probably receive more information than the average member—not by design, but it just works that way. I hear news earlier than

others, and I get to visit more farms and have more small group discussions. These are benefits enjoyed by every selectman, planning commission member, church trustee, bank director, and elected official in the country. If you would like to enjoy them too, speak to Nigel Manley, chair of the nominating committee to volunteer for service, or at least say yes when your phone rings with the request.

This is my last column as president of our association. I have enjoyed the ride, and enjoyed the opportunity to sit at the head of the table in directors' meetings. I will serve two more years in the position of immediate past president, and I still enjoy the program committee. Above all, it is extremely comforting to observe closely the outstanding leadership and management of our executive, Jim Horst. Come to the meeting at his farm on the 24th, and shake his hand.

Russell Reay, President



New Hampshire-Vermont Christmas Tree Association



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Vice President
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Marketing Committee Chair
Group Buying Chair

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Bill Nichols (603) 353-4832

(Term Ends)

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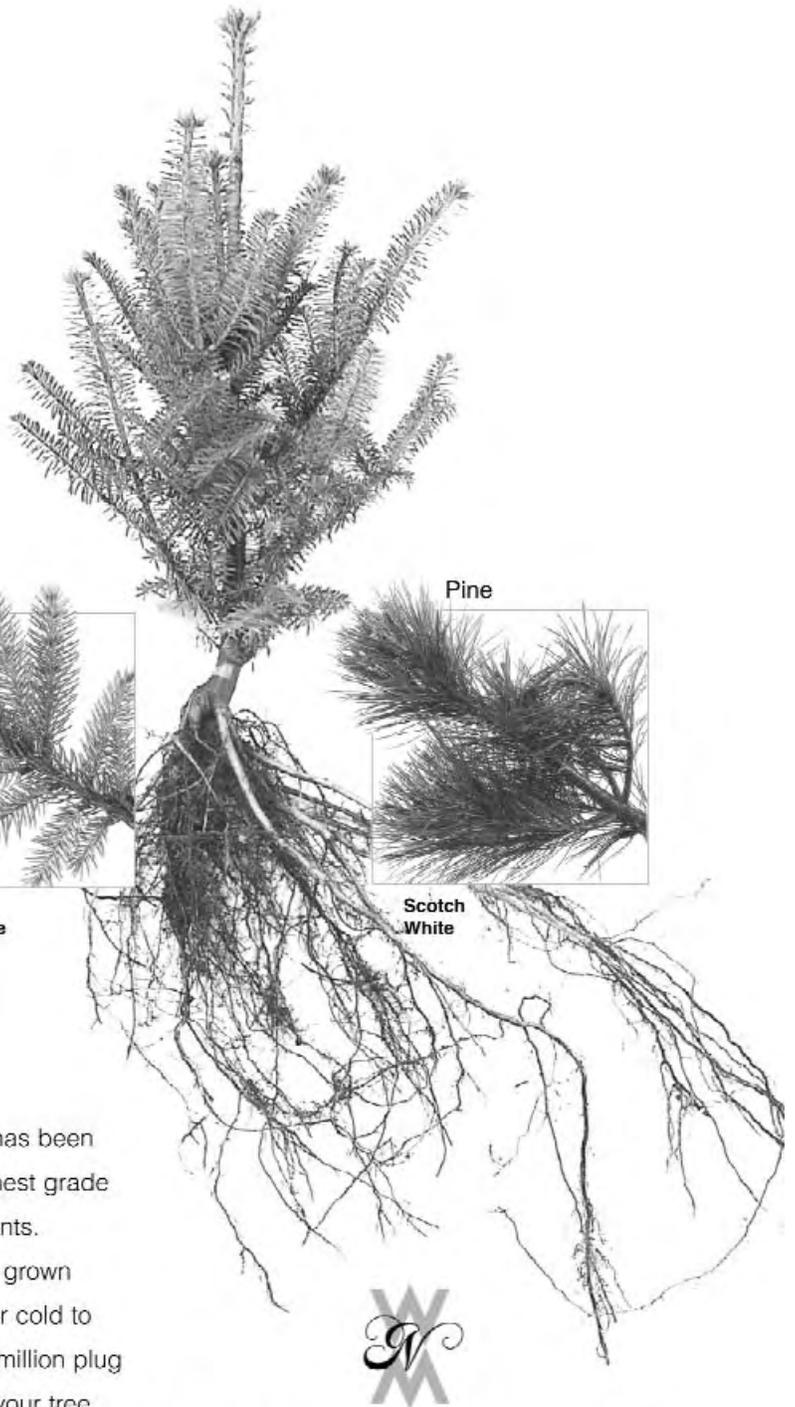
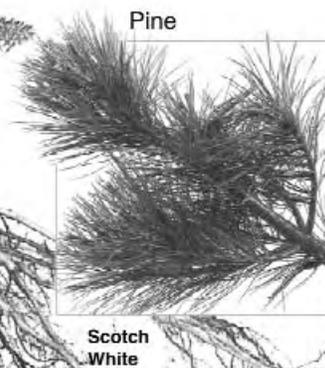
2005 Tree Line Publication Schedule

Issue	Ad/Submission Deadline	Mailing Date
January	December 31	January 14
June	May 27	June 10
September	August 26	September 9

*Denotes second consecutive term

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Research Report: Soil pH Management for Fraser Fir

Source: N.C. State University

When it comes to Fraser fir, special management strategies for soil pH, calcium, and magnesium are needed to provide proper nutrition without over-liming.

Introduction

Fraser fir Christmas trees are native to the naturally acidic (or low-pH) soils at high elevations in North Carolina and neighboring states. They require this low-pH environment to survive and flourish, making their lime needs significantly less than that of other crops. However, some virgin mountain soils are so far down in the acidic range that several tons of lime per acre are needed to raise the pH to make growing Fraser firs possible. These virgin fields might have a pH as low as 4.0. Fraser firs need a pH of 5.5 to 5.8. In this situation, special management strategies are required to make sure the soil is not overlimed.

Additionally, the grower must consider the trees' need for calcium and magnesium and the danger that overliming will produce manganese deficiency.

Raising Soil pH

The cornerstone of a good soil pH management program is soil testing. Accurate soil test recommendations for liming are not based on pH alone. Instead, a measure of the reserve acidity of the soil is needed as well as the target pH. Target pH is simply the desired pH that a liming program tries to achieve. For establishment of new Christmas tree fields (first rotation only), the target pH is 5.8; for existing fields, it is 5.5.

Liming Fraser firs demands a delicate balance, even using soil test recommendations. Lime could be needed to bring the soil pH up. It also could be needed to add calcium to prevent in-field and/or postharvest needle drop—superior needle retention being one of the hallmarks of the Fraser fir. If these doses of lime turn into overliming and send soil pH too high, it could induce a manganese deficiency and lead to stunted, bright yellow needles.

Calcium and Magnesium

Not only does the quantity of lime matter to Fraser firs, the type of lime—calcitic or dolomitic—also is crucial. Calcitic

limes (calcium carbonate, calcium hydroxide, calcium oxide) supply only calcium, whereas dolomitic lime (calcium carbonate + magnesium carbonate) supplies both calcium and magnesium. Choosing one or the other must be weighed against the need of the field for calcium and/or magnesium. Many Fraser fir fields have begun to show a gradual increase in magnesium, possibly because of the long-term use of dolomitic lime. An excess of magnesium should be avoided in these fields as too much magnesium can displace calcium.

Soil testing will indicate whether the fields have sufficient calcium and magnesium for optimum tree growth and postharvest needle retention (calcium). On soils with a cation exchange capacity (CEC) of less than 12, a good target is for calcium to occupy 50 to 55 percent of the CEC. The target can be reduced on soils with a higher CEC. Some soils still need calcium even if pH is adequate. If pH is at or above 5.5, but calcium is below 50 to 55 percent, lime should not be applied.

Another source of calcium should be used, for instance, gypsum (calcium sulfate, landplaster).

Gypsum is an economical source of calcium in this situation, and unlike lime, gypsum does not change soil pH. The application rate is based on both CEC and the percentage of calcium noted in the soil test report.

Suggested application rates are given in Table 1. On soils with a CEC above 8, lime normally will supply sufficient calcium. A calcium value of 45 percent is generally sufficient on soils with a CEC higher than 8.

As mentioned earlier, magnesium levels in Fraser fir fields have been gradually rising over the years. Be sure to use only calcitic lime, which has no magnesium, if magnesium is in excess of 15 percent of the CEC.

continued on page 10

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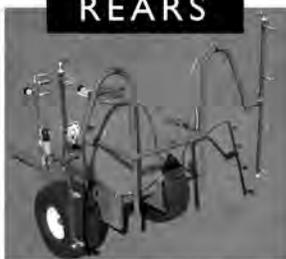
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Research Report: Update on Glyphosate Products

By John Ahrens

In the January 2005 issue of *Tree Line*, I mentioned the changing situation with glyphosate formulations. Roundup Original, our standard for many years, is being phased out and many new glyphosate products are on the market. At last count there were 44 glyphosate products sold for agricultural uses by 17 different manufacturers. Some of these are similar to Roundup Original and some are more concentrated and/or contain different additives which can affect their absorption by conifers as well as weeds. Most are not registered for Christmas trees.

The Monsanto Company is considering the registration of two of their potassium salt formulations for Christmas trees in the Northeast; Roundup Original Max and Roundup Weather Max. They currently have supplemental registrations for Christmas trees in the Pacific Northwest where conditions are quite different from New England. I agreed to evaluate their tolerance by dormant Christmas trees in comparison with the old standard, Roundup Original. In our tests, I also included a product called Clear Out 41 Plus, from CPT, which is supposed to be similar to

Roundup Original and has captured the interest of some Connecticut growers.

The test protocol:

Roundup Original and Clear Out 41 Plus were applied at 1 and 2 quarts per acre; Roundup Original Max and Roundup Weather Max are more concentrated (48.7 vs. 41% glyphosate) so they were applied at 22 and 43 ounces per acre. Rates in Douglas-fir were lower - 1½ pts. to 1½ qts. of Roundup Original or its equivalent. Spray volumes were 30 gal. per acre applied over dormant conifers in September or in the spring before bud break. We conducted four separate experiments; one over the top of Fraser fir in April 2004, one over Lincoln Douglas-fir in September 2004, and a third over Fraser fir in September 2004, all in Enfield and Somers, Connecticut. A fourth, treated on May 14, 2005, involved sprays applied with off-center nozzles, hitting the lower 12 to 14 inches of 3 to 4 ft. Fraser firs on my plantation in Woodbury, Vt. All plots contained 3 or more trees per plot with treatments replicated 3 to 4 times in randomized complete blocks. Tree injury ratings were made at least twice during the summer.

Results: Injury to the Fraser firs from the glyphosate formulations in both Connecticut and Vermont was mild at both rates of application, consisting primarily of shortened chlorotic needles on some lateral shoots. Variability from plant to plant was great. However, we obtained significantly more injury with the double rate (43 fluid ounces per acre) of Roundup Weather Max than with the other treatments in the fall 2004 experiment. In the Douglas-firs, which historically have been more sensitive than true firs to glyphosate, injury manifested itself in dead shoot tips on some branches. Variability also was great and again we did not see consistent differences in the glyphosate formulations. We did not include spruce in these tests but we know from experience that spruce are equally or more tolerant of glyphosate than firs.

Discussion: All but one of these experiments were conducted under "worst case" situations; that is, by spraying over-the-top rather than by using semi-directed sprays. Less injury can be expected from glyphosate if we reduce foliar contact on the conifers. Of the two new Roundup formulations, Roundup Original Max has the edge for safety when sprayed over the top. However, my guess is that provided we use these new formulations in the ways that we have found safe in the past, we could expect equally good results. Let us review those "ways." First, delay applications in the fall until growth has hardened—September 1 or later for true firs and spruce or before bud break in the spring. Fall applications are most effective for control of perennial weeds and brush. Spring applications control only those weeds that are "green." If glyphosate is applied in the fall and a spring application is needed for emerged annuals, it is best to reduce the spring rate so that

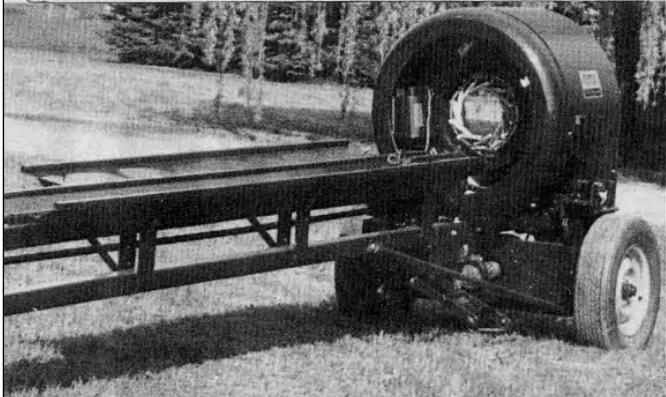
continued on page 12

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 DEALER



Editor's Desk

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

The Rest of the Story

The last issue of *Tree Line* included a note received from a member regarding two seedling orders placed with Bechedor, Inc., that reportedly were never filled.

Marc Caron of Bechedor, which is a member of the NHVTCTA, took serious issue with the claim, stating that the company has no record of one order in question ever having been placed and explaining that the other order was delayed due to the need for a phytosanitary certificate from Agriculture Canada. Caron states that the customer was offered free shipping, but the customer refused.

"Our company has been in business for 23 years and built a solid reputation throughout Canada and the USA by providing exceptional care to every one of our customers and the 10 million seedlings that leave our nursery every year," says Caron.

It seems that the problem was one of communication rather than intent. We regret having not sought out this additional information as a matter of fairness before running the original item.

North of the Border

Jim Horst sends the following note of interest:

I attended the Quebec Christmas Tree Growers meeting in Courcelles, Quebec on August 27. It was a long drive, and worth every bit of effort. The folks at Quebec Balsam Exports (NHVTCTA members) hosted the meeting, and did a great job. I and several other NHVTCTA members were able to have dinner with them on Friday evening, and appreciated their openness and hospitality.

Several NHVTCTA members from Quebec had booths at the trade show. It was nice to be able to introduce myself to people I have talked with over the phone from time to time without actually

meeting. It is always nice to associate a face with a name!

Quebec farms are large by our standards, and often use equipment larger and different from ours. There is much to learn, though. Meetings are in French, but I would suggest that you hook up with someone who can do a little translating if necessary and attend one of these meetings. You'll be glad you did.

Trees for Troops

Please remember that Peter Mollica is managing NHVTCTA's revised Trees for Troops program this year. Growers simply pledge a certain number of trees or wreaths and certificates will be distributed to the families of troops serving overseas. Donating trees and wreaths is easy—just contact Peter at (802) 885-9597.



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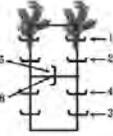
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Members may advertise goods and services related to the tree and wreath industry for no charge. The cost for non-members is \$25. Submit ads to the editor at pwhitevt@aol.com

For Sale: Ribbon, 8 spools #40 2 1/2" 25 yd. Per spool. 7 red with gold backing; 1 burgundy with gold backing (similar to Kelco #R40VVGB). \$60. Will deliver to Sept. 24 meeting. Elysian Hills Tree Farm (Bill and Mary Lou). (802) 257-0233. E-mail: elysianh@sover.net.

For Sale: Model #8200 Bachtold Bros. weed and brush mower with custom extras for around Christmas trees. Three years old, excellent condition, \$950 firm. 5 HP Briggs and Stratton engine Bear Cat walk behind heavy duty string mower. \$175. Home made tree shaker: looks funny but works good, and has for the last 15 years. \$150. Call Dave at (603) 352-7892.

For Sale: Kelco wreath machine from 1991 with roping attachment. Great condition, used very little. \$1,000. Also, accessories: shipping boxes, wooden cuttings box, decorations, glass balls, rings, cones, berries, etc. \$500 for all. Located in Canaan, Vt. Contact Celine Fuller, (802) 266-3523.

Invading Invasives

In line with Jeff Taylor's excellent presentation on invasive vegetation at the winter meeting in Barre last January, I've begun what I foresee to be an ongoing effort to control invasive plants that exist throughout our 100 acre woodlot and are beginning to enter our 40 acres of open land including the 20 acres in Christmas trees. The primary culprits at this point are numerous buckthorn, barberry and honeysuckle plants with increasing amounts of multiflora rose, garlic mustard and oriental bittersweet.

Looking at the threats to the Christmas tree stands in particular, and with Jeff's specific guidance and chemicals I bought from his company (Vegetation Control Service), I've already dealt with buckthorn and barberry sprinkled along the edges of our two main fields. On the western end of the upper field, right next to Canaan Fir, were buckthorn that looked like apple trees. One ring count revealed an age of 25 years.

Another example is in the center of the northern edge of this field where numerous buckthorn surrounded a single maple tree bordering a balsam lot. Most of

these resulted from my attempt two or three years ago to get rid of them with a chainsaw. That mistaken exercise not only was futile in doing in the plants but caused many more to grow. I now know that the most efficient and effective way to deal with buckthorn and barberry, large as they've gotten to be, is through a chemical application either by spraying the entire plant or cutting the main stem and painting the stump. Smaller buckthorn can be pulled by hand.

To help pay for time and materials in this control program, at least for the next three years, I've gotten a \$4,800 WHIP (Wildlife Habitat Improvement Program) grant from USDA's Natural Resource Conservation Service. I'll be focusing on different areas throughout the property each year and also annually returning to areas already dealt with, knowing that most invasives aren't totally done-in the first time around.

Anyone interested in more information on the program I'm undertaking, chemicals I'm using, etc., can contact me.

Bill Schmidt, (802) 257-0233

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Fall 2005 - Spring 2006 (Partial Listing)

SPRUCE VARIETIES	Age	Size	Per 100	Per 1000
Colorado Blue Spruce (picea pungens glauca)				Zones 2-7
3 yr. seedlings	3-0	8-16"	48.00	240.00
4 yr. seedlings	4-0	14-22"	56.00	280.00
• 5 yr. transplants*	2-3	10-18"	160.00	800.00
6 yr. transplants*	3-3	16-24"	200.00	1,000.00
Norway Spruce (picea abies)				Zones 2-7
3 yr. seedlings	3-0	10-18"	50.00	250.00
4 yr. transplants	2-2	10-18"	170.00	850.00
• 5 yr. transplants*	2-3	14-24"	195.00	975.00
Black Hills Spruce (picea glauca var. densata)				Zones 2-6
3 yr. seedlings	3-0	5-10"	55.00	275.00
4 yr. transplants	2-2	6-12"	140.00	700.00
Engelmann Spruce (picea engelmannii)				Zones 2-7
3 yr. seedlings	3-0	6-12"	50.00	250.00
Serbian Spruce (picea omorika)				Zones 4-7
3 yr. seedlings	3-0	7-14"	70.00	350.00
4 yr. seedlings	4-0	8-16"	85.00	425.00
5 yr. transplants*	3-2	12-20"	190.00	950.00
Meyer Spruce (picea meyeri)				Zones 2-7
3 yr. seedlings	3-0	5-10"	75.00	375.00
4 yr. transplants	2-2	5-10"	160.00	800.00
White Spruce (picea glauca)				Zones 4-7
3 yr. seedlings	3-0	8-16"	50.00	250.00
• 4 yr. transplants	2-2	8-16"	140.00	700.00
FIR VARIETIES	Age	Size	Per 100	Per 1000
Fraser Fir (abies fraseri)				Zones 4-7
3 yr. seedlings	3-0	5-10"	60.00	300.00
• 4 yr. transplants	2-2	7-14"	170.00	850.00
5 yr. transplants*	2-3	8-16"	180.00	900.00
Fraser Fir (Ayers Seed Orchard)				Zones 4-7
3 yr. seedlings	3-0	5-10"	65.00	325.00
• 4 yr. transplants	2-2	8-15"	180.00	900.00
Balsam Fir (abies balsamea)				Zones 3-6
3 yr. seedlings	3-0	4-9"	40.00	200.00
Concolor Fir (abies concolor)				Zones 3-7
3 yr. seedlings	3-0	8-16"	70.00	350.00
4 yr. seedlings	4-0	12-20"	80.00	400.00
4 yr. transplants	2-2	5-10"	175.00	875.00
Canaan Fir (abies balsamea phanerolepis)				Zones 4-7
3 yr. seedlings	3-0	5-10"	70.00	350.00
4 yr. transplants	2-2	7-14"	170.00	850.00
• 5 yr. transplants*	2-3	10-18"	190.00	950.00
Douglas Fir (Lincoln N.F. New Mexico)				Zones 4-6
2 yr. seedlings	2-0	10-15"	50.00	250.00
4 yr. transplants	2-2	8-16"	165.00	825.00
5 yr. transplants*	2-3	20-30"	210.00	1,050.00
Douglas Fir (Clearwater N.F. Idaho)				Zones 4-6
3 yr. seedlings	3-0	10-18"	70.00	350.00

Douglas Fir (Shuswap Lake Region, B.C.)					Zones 4-6
3 yr. seedlings	3-0	10-18"	70.00	350.00	
SCOTCH PINE (HYBRIDS)	Age	Size	Per 100	Per 1000	
Scotch Pine (Lake Superior Blue II®)					Zones 5-8
2 yr. seedlings	2-0	5-10"	50.00	250.00	
3 yr. seedlings	3-0	12-20"	70.00	350.00	
OTHER SCOTCH PINE VARIETIES	Age	Size	Per 100	Per 1000	
Scotch Pine (East Anglia)-New!					Zones 2-8
2 yr. seedlings	2-0	5-10"	45.00	225.00	
Scotch Pine (Belgium)					Zones 2-8
2 yr. seedlings	2-0	6-12"	45.00	225.00	
Scotch Pine (French Highland)					Zones 2-8
2 yr. seedlings	2-0	3-7"	40.00	200.00	
3 yr. seedlings	3-0	12-20"	65.00	325.00	
Scotch Pine (Spanish Guadarrama)					Zones 5-8
3 yr. seedlings	3-0	12-20"	65.00	325.00	
PINE VARIETIES	Age	Size	Per 100	Per 1000	
Eastern White Pine (Northern Seed Source)					Zones 3-8
3 yr. seedlings	3-0	5-10"	60.00	300.00	
• 4 yr. transplants	2-2	8-15"	155.00	775.00	
5 yr. transplants*	2-3	14-28"	180.00	900.00	
Eastern White Pine (Southern Seed Source)					Zones 3-8
3 yr. seedlings	3-0	5-10"	62.00	310.00	
• 4 yr. transplants	2-2	8-16"	165.00	825.00	
American Red Pine (pinus resinosa)					Zones 2-6
3 yr. seedlings	3-0	8-16"	70.00	350.00	
5 yr. transplants*	2-3	14-24"	190.00	950.00	
Austrian Pine (pinus nigra)					Zones 4-8
3 yr. seedlings	3-0	10-18"	60.00	300.00	
Austrian Pine (Pal Select)					Zones 4-8
2 yr. seedlings	2-0	4-7"	45.00	225.00	
OTHER VARIETIES	Age	Size	Per 100	Per 1000	
American Arborvitae (thuja occidentalis)					Zones 4-6
3 yr. seedlings	3-0	6-12"	70.00	350.00	
Canadian Hemlock (tsuga canadensis)					Zones 3-7
3 yr. seedlings	3-0	6-12"	70.00	350.00	
4 yr. seedlings	4-0	14-22"	90.00	450.00	
• 5 yr. transplants*	2-3	14-24"	190.00	950.00	
6 yr. transplants*	3-3	20-30"	240.00	1,200.00	

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Research Report: Soil pH Management for Fraser

continued from page 4

Magnesium levels above 15 percent can displace calcium and should be avoided.

On the rare occasion where magnesium is needed and lime is not, 20 pounds of magnesium per acre are normally sufficient. This can be supplied by using magnesium sulfate (Epsom salt, 10 percent magnesium) at a rate of 200 pounds per acre or potassium magnesium sulfate (11 percent magnesium, 22 percent potassium) at a rate of 180 pounds per acre. Epsom salt also can be applied in a foliar spray during the growing season for a rapid response.

Lowering Soil pH

In some instances, it may be desirable to lower soil pH. Overlimed sites, old lime piles, fields with overlapping swaths from liming, or land converted

from other crops may have a pH too high for optimum Fraser fir growth. In overlimed fields manganese and zinc deficiencies are often induced. Trees will exhibit stunted and yellowed foliage.

Two economical options exist for reducing soil pH. The first is to apply elemental sulfur at a rate of 150 to 200 pounds per acre (1.4 to 1.8 ounces per tree). When oxidized to sulfate by soil bacteria, acid is generated and soil pH is lowered.

The second option is to use ammonium sulfate (21-0-0) as the nitrogen source until the desired pH is reached. This material can potentially neutralize the equivalent of 130 pounds of lime per 100 pounds of material. Application rates should not exceed the normal nitrogen fertilization rate. This approach may be best when a reduction of less than 1 pH unit is desired, particularly on low CEC soils. The pH

reduction is provided by acid generation when the ammonium is converted to nitrate by soil bacteria, and not from the sulfate.

In extreme cases, both elemental sulfur and ammonium sulfate can be used. However, salt injury has been observed in nursery beds when both were applied together. Ideally, the two materials should not be applied at the same time. It may help minimize salt injury if the ammonium sulfate is applied at the normal time of nitrogen fertilization and the elemental sulfur is applied in the fall after trees are dormant.

Aluminum sulfate or alum is sometimes used by gardeners to lower pH. The pH reduction occurs relatively quickly. While this material is very effective in reducing pH, large-scale application is not economical.

pH Stratification

A survey of 230 Christmas tree sites showed that soil pH decreases with depth. Soil pH averaged 5.5 in the top 2 inches of soil and 5.2 in the 2- to 4-inch layer.

To assure more uniform pH throughout several inches of soil depth, incorporate the lime. However, lime must be surface-applied on most fields due to steep slopes or the presence of trees. Since lime is not very soluble, it reacts first near the soil surface, so acidity is not neutralized as rapidly below the surface. Therefore, when taking soil samples, you should be aware that the pH in the root zone of the trees may be lower than that on the surface.

Another implication of pH stratification is that some sampling methods, such as using shovels and trowels, collect more soil from the surface, where the pH is higher. To obtain the most accurate results, a soil probe should be used. Splitting the sample into 0 to 4 inches and 4 to 8 inches depths may be beneficial.

Thanks to Bob White for his suggestion we run this information.



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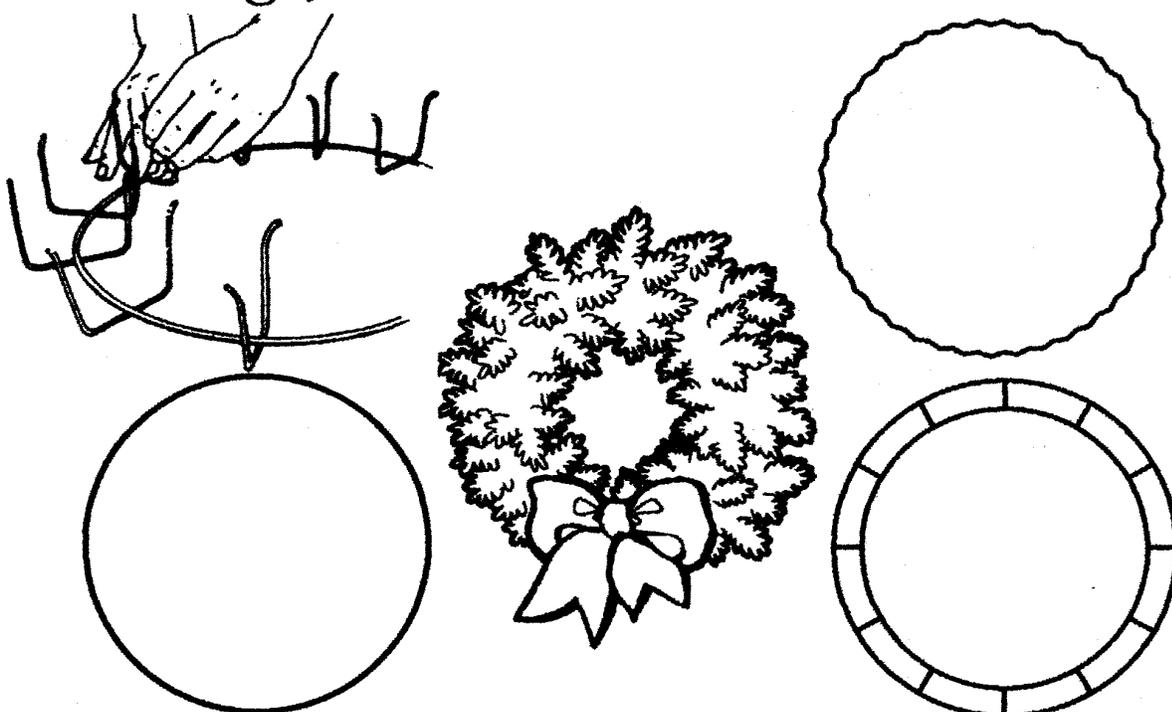
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NCTA: Marketing Tool Kit

continued from page 1

from NCTA's "Marketer of the Year" award give you specific examples of how different marketers creatively and effectively expanded on the ideas in the tool kit. Newspaper and radio PSAs in English and Spanish as well as website advertisements, an electronic greeting card, and contest entry forms are all ready for use on the CD-ROM in the kit. All of these advertisements were made by professionals, but are provided for you free of charge.

The tool kit was created after extensive research about the changing target market of the Real Tree industry. These inquiries identified "Generation Y" and the Hispanic population as two emerging markets you can't afford to miss. "Generation Y" defines the 72 to 79 million people in the U.S. ages 10 to 27 who have become one of the most dominant and heavily sought after consumer groups today.

The Hispanic population is another important demographic for the Real Tree industry. Hispanics are the fastest growing and largest ethnic group in the U.S. and account for 12% of the population. With strong holiday traditions and a buying power of \$800 billion, they are a group you need to seek out.

The tool kit includes case studies, tips and tools, and advertisements to help you capture these emerging markets, expanding your audience and your profits.

Not using the tool kit is like climbing down a chimney when the front door is wide open; you're making it harder to get where you want to be, which is at the top of your sales! With a little time and effort you can master the strategies in the tool kit. If every NCTA member does his or her share, the sales of Real Trees in 2005 will grow.

Glyphosate Update

continued from page 6

no more than 2 qts. of Roundup Original or equivalent are applied on the same trees.

On all Christmas tree species use semi-directed (not over-the-top) sprays hitting only the lower 12 to 14 inches of trees. Apply 1 to 1½ quarts of Roundup Original per acre or equal acid equivalents of other formulations that are labeled for Christmas trees. Calibrate equipment so that you are sure of the dosages. If uncalibrated spot sprays are used, spray lightly and do not exceed 1% of Roundup Original or Clear Out 41 Plus (1 1/3 ounces per gallon) or 1 ounce per gallon of the more concentrated Roundup Original Max or Weather Max. SureGuard (flumioxazin) or Princep (simazine) may be added to these sprays at normal dosages but don't add surfactants.

This article first appeared in Real Tree Line, August 2005.



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