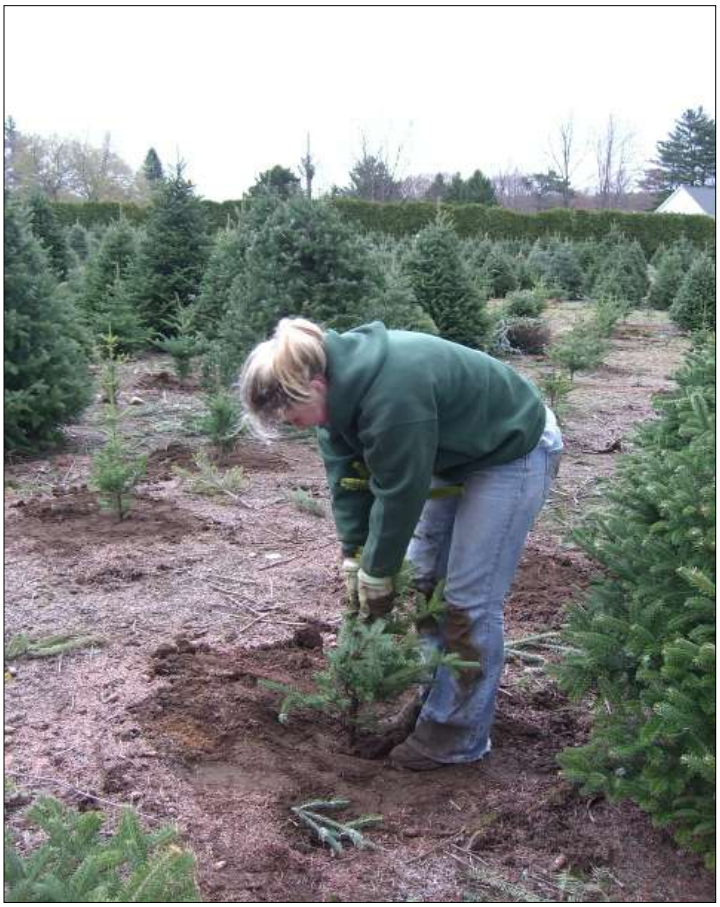
Shearings

MAY 2013



Planting and Planning for
Twilight Time 2013

Massachusetts Christmas Tree Association
www.christmas–trees.org

OFFICERS:

President ..... Rob Leab
2 yr term-Expires 2014
3475 Route 43, Hancock, MA 01237
(413) 738-5915
missy@iokavalleyfarm.com

Vice-President..... Daniel Pierce
2 yr term-Expires 2014
431 Chase Rd., Lunenburg MA 01462
(978) 582-4723
piercetrees@verizon.net

Treasurer..... . Joseph Meichelbeck
1 year term
44 Fay Mountain Rd., Grafton, MA 01519
(508) 839-6739
jrm44@verizon.net

Secretary..... James Colburn
1 year term
104 West Main St., Merrimac, MA 01860
(978) 346-4381
jas.colburn.@verizon.net

Immediate Past President.....Thomas Cranston
2 *year term expires 2014*
197 Bellus Rd., PO Box 77, Ashfield, MA 01330
(413) 628-3911
tcranston@verizon.net

Calendar

June 5 5:30 pm	MA Twilight Meeting Boyden Brother's Maple Conway, MA
June 11 6:00 pm	CT Twilight Meeting Kogut's Hemlock Hill Farm Somers, CT.
June 12 5:30 pm	MA Twilight Meeting MerriHill Tree Farm Merrimac, MA
June 19 6:00 pm	MA Twilight Meeting Arrowhead Acres Uxbridge, MA
June 22	NH/VT CTA Summer Meet Hidden Meadows Tree Farm Bath, NH
July 18 -20	New York Meeting CTFANY 60th Anniversary Accord, NY & Monticello, NY
July 23 6:00 pm	CT- Twilight Meeting Valley Lab- Windsor, CT
Aug 10-11	NCTA Pre-Season Clinic Arlington, VA
August 14 6:00 pm	CT- Twilight Meeting Dumas Family Farm Durham, CT
Sept 21	CT- CTCTGA Annual Meeting Allen Hill Tree Farm Brooklyn, CT
Sept. 13-29	The BIG "E"

ORGANIZATION & INDUSTRY NEWS

President's Message *by Rob Leab*

Spring is here! Hope everyone is well underway with planting if not already done. I am planting a little everyday as we continue to work on cleaning up from a successful sugar season. I would like to take this opportunity to thank Julie Gauld for her many years as our secretary, Cynthia Cranston for her years of service as editor of Shearings and for her continued contributions of new photos and updates on our website. I thank Julie Gauld for her long relationship with MCTA as Secretary and her continued work with NECTA. And, with the thanks to past and present people who served as board members, assistants and volunteers that give their time to help our association, from meetings to the Big E.

We have a busy summer ahead with many things to do on our farms and great opportunities to see other farms and "talk trees" with fellow growers. We have three (3) Twilight Meetings scheduled in June. One eastern MA, one central MA and one western MA. Two of the farms, Merrihill Farm in Merrimac and Boyden Brother's Maple Farm in Conway are young farms and just started selling trees. Our third twilight meeting is at an established farm, Arrowhead Acres in Uxbridge, which experienced a sabbatical from tree farming, and started up again. A good opportunity to reminisce about the early years, learn some new lessons and share our experience with our fellow growers. It's nice break from our farm chores once in a while.

Our annual meeting will be at Peter Sweet's, Seekonk Tree Farm. We have a new speaker . Betsy Lamb, as our speaker from Cornell University. She is the coordinator for the IPM program for the New York State University. She and Peter have put together a great program with pesticide credits being offered. There will be an alternative program for the any wanting to use their creative skills as well. Look for the details in the mail and in Shearings. We look forward to seeing you there.

It's also a good time to look at other state associations for additional opportunities to attend interesting meetings and seminars. There are many to chose from this summer. From Connecticut to Maine to New York, there is always a meeting to attend. Nationally, the NCTA has a 2-day Pre-Season Clinic in August. It looks to be informative and educational. Never had a twilight meeting or Annual meeting at your farm? We are always looking for new farms/plantations to host a meeting. Our board members can give you a helping hand to coordinate and organize a twilight meeting or any other type of MCTA event at your farm during the year. If anyone in interested in hosting any future meetings or events, please let us know. I look forward to working with Jim Colburn as our secretary, the current directors and Gloria Elsworth as editor of Shearings.

We are always looking for Christmas tree growers to join the association, so please encourage new members. Remember "Real trees make Scents" Have a great summer.

MCTA Directors

Seth Cranston,
372 Baptist Corner Rd., Ashfield, MA 01330
(413) 628-0090
cranstonstreefarm@yahoo.com, *1st term expires 2014*

Greg Davagian,
19 Merriam Lane, Sutton, MA 01590
(508) 865-3413
davatrees@gmail.com, *1st term expires 2013*

Scott Dwinell,
132 Salem Road, Topsfield, MA 01983
(978) 887-2670
tdwinell@verizon.net *1st term expires 2015*

Larry Flaccus
1394 Mohawk Trail, Shelburne, MA 01370
(413) 625-6116
farm@kenburnorchards.com *1st term expires 2014*

Robert Gauld
14 Meetinghouse Hill Rd., Sterling, MA 01564
(978) 422-0485
rgauld@verizon.net *1st term expires 2015*

Joyce Leitl
500 No. Liberty St., Belchertown, MA 01007
(413) 563-3003
joyceleitl@hotmail.com *1st term expires 2013*

Susan Lopes
161 Slate Road, Chicopee, MA. 01020
(413) 592-6015 *1st term expires 2015*

David Morin
92 Aldrich St., Uxbridge, MA 01569
(508) 278-5017
info@arrowheadacres.com *2nd term expires. 2013*

Carol Nims
114 Woodard Rd., Greenfield, MA 01301
(413) 774-5742
nims@crocker.com *2nd term expires 2014*

David Radebaugh
191 Franklin St., Belchertown, MA 01007
(413) 323-5270
xmasstrees19@yahoo.com *2nd term expires 2013*

"SHEARINGS" Editor:
Gloria Ellsworth
246 School St,, Northborough, MA 01532
(508) 393-6479
shearings2u@verizon.net

NECTA Representative:
John Coward, 13 Congamond Road, Southwick, MA 01077
(413) 569-6724 Jcow65@msn.com

Organizational & Industry News continued

NATIONAL NEWS

NCTA Pre-Season Clinic -- Aug.10-11, 2013.

The clinic will take place at the Renaissance Arlington Capital View of Arlington, Va., and will feature the best of NCTA's educational and networking offerings, compressed into a valuable, information-packed weekend experience. From the Networking Center to Learning Labs to Experiential Learning to Educational Workshops, attendees will have lots of options – all focused on helping you grow your business and get ready for the coming season. The Clinic is *the* only national event for the Real Tree industry in 2013 and will also include the 2013 National Tree and Wreath Contests.

NCTA Proposes Changes to NFPA1 Model Fire Code

For growers and retailers of Real Christmas Trees, it's crucial to ensure that consumers are allowed to display trees without undue restrictions.

There are two model codes in use that determine whether a cut Christmas Tree can be displayed in any building - the International Fire Code (IFC) and National Fire Protection Association Code 1 (NFPA1). These codes are modified on a three-year cycle, and sometimes changes are proposed that could increase or decrease the restrictions on where Christmas Trees can be displayed. NCTA monitors the code-making process.

Through funding from the Real Tree Advocacy Fund and TIP, NCTA maintains memberships in both code groups, and in 2012, sponsored a representative at the code committee meetings of NFPA. NCTA also submitted a proposed change to NFPA1 that would allow cut Christmas Trees to be displayed in additional building types including "places of worship." Unfortunately, the proposed change was rejected by the NFPA technical committee. States and municipalities can modify the model codes, even after adoption, making it difficult to know which restrictions or exemptions are enforced when a local fire marshal says "you can't display a Christmas Tree here." To help monitor the codes on a local level, NCTA has set up a network of volunteers within each state called Code Coordinators. Volunteers are given tools and information that helps them to monitor any proposed changes in their state and hopefully reduces chances of being "surprised" by any negative changes.

Cultural and Pest Management Update for Christmas Tree Plantations February 2013

Weather Conditions, Trunk Splits, Conifer Collapse Curbside Survey and 2012 Growing Conditions Data

By Tom Rathier, Emeritus Soil Scientist
Connecticut Agricultural Experiment Station
Valley Laboratory, P.O. Box 248, Windsor, CT 06095

Reprinted by permission from T. Rathier and CT CTGA The Real Tree Line Newsletter February 2013 Vol. 53-#1

It's Ground Hog day as I'm finishing up this update and we have a split decision on the fate of winter. Punxatawney Phil, Pennsylvania's and our nations' most celebrated weather predictor, did not see his shadow this morning which many folks take to mean that we will have an early spring. Before everyone starts digging up transplants, though, it may be a split decision. Connecticut's own Chuckles VIII at the Lutz Children's Museum in Manchester did see her shadow so we could be in for 6 more weeks of winter. Regardless of predictions, Connecticut growers have learned to take all predictions with as many grains of salt as necessary and are usually prepared for whatever crops up.

Some very interesting weather conditions affecting mature conifers cropped up since Christmas. We had a colder January than we have had in a while, fueled, no doubt by an extended streak of near zero degree (F) readings during the last several days of the month. With no significant accumulation of snow on the ground, most farms saw their first solid frozen soil conditions in the past few years. The cold snap was followed quickly in January 30-31 by a mini snow/sleet/rain event that ended with some sustained overnight winds of 20-30 mph and gusts of 40-50 mph. Numerous large trees, including disproportional number of mature conifers throughout Connecticut were blown down. Television and print news organizations throughout the state posted many images on their websites.

Wind speeds like those aren't usually very harmful to conifers. The question one might ask would be "If those trees were weak, why didn't they blow down during tropical storms Irene (2011) and Sandy (2012) when the wind speeds were much stronger?" The likely answer would be they may not have been weak but that they blew down because the ground was frozen. Any healthy tree's ability to tolerate heavy winds depends a lot on whether or not it has a healthy, well established root system. Those roots will hold them in place by moving along with the soil, allowing the tops to sway in the wind.

When soils are frozen, they can't move with the roots and total flexibility is reduced, significantly limiting the tree's ability to sway with the wind. When the tree's flexibility is reduced, uprooting is much more likely to occur. This result is often visible in the reduced size of the root mass that gets exposed when a tree topples over. Of course, this frozen soil effect happens to all trees but conifers may be at more risk because they keep their foliage year round, providing a sail for any wind. All of these root/tree stability physics apply in exactly the same way to the conifers we grow as Christmas trees but we rarely see a blow down in our plantations. Our trees are mostly safe from heavy winds because they are comparatively small and they are all growing together. Our trees, even if they get to the 12-15 feet range and even if they are fully sheared, are still small by mature tree standards and each one just does not provide enough of a sail to be blown down by strong winds. Additionally, the fact that they are all together in a plantation grid assures that they share the burden of wind tolerance – a conifer "band of brothers" ("band of sisters" is equally applicable) if you will.

Large trees especially benefit from the band of brothers mutual protection. As I write this update, I am looking out from our kitchen windows to our backyard and the stand of older, native trees in the wooded are beyond. Interspersed among red oaks, pin oaks, red maples, beeches are several 60-70 foot tall white pines. Collectively, they make for a grand

continued

appearance, but individually, each would be visually unwelcomed in a landscape. They only have branches (and foliage) at their upper ends (20-25 feet). All lower branches have long ago become physiologically useless to the trees and broken off. Because they all grew together and experienced the same wind forces over the years, no individual tree is at much risk to storm damage as long as the entire stand remains. I am more concerned about an isolated, similarly size white pine in our front yard. Left behind by the builder some 26 years ago, this tree doesn't have much more foliage than its forest mates and, because it's out there on its own more at risk to a blow down. Its roots have become somewhat invasive and are now pushing up our driveway. When we repave, we'll have to remove the tree.

The root system of our driveway tree has no doubt been negatively affected by the construction efforts and lack of forest soil conditions. Not so probably for our forest pines. There is a very good chance that those mature trees, in a continuous forest setting, have, in addition to their widespread shallow root system, have a second set of downward pointing roots that begin growing after they become established. Some of this information came to the fore in the 1960s-70s when researchers in Maine were looking to explain why it so difficult to permanently repopulate white pines into former forest land that had been cleared for conventional farming a century or more before. Their principal conclusion was that the plow pans (even those made by simple, horse drawn tillage) left behind, when on abandoned farmsteads were significantly impeding the growth of those secondary roots, ultimately limiting the overall vigor of trees as they mature.

Among other names, white pine decline has been the most common one for this problem and I regularly cited it during my years in the diagnostic lab to a least partially explain the gradual loss of vigor by larger conifers in landscapes. There aren't very many descriptions of deeper root growth in forestry literature but it may not be too much of a stretch to assign that quality to more species that just white pine. For instance, old growth Douglas firs in some northwest forests are known to have very deep roots because they've been found extending into caverns deep below.

Given the extent that Connecticut was deforested and aggressively farmed in earlier centuries, it isn't likely that we have many otherwise convenient settings to grow the conifers we like to harvest as Christmas trees without some remnants of plow pans. Given also that we can successfully grow our crops in 8-10 years with only shallow root systems., it shouldn't matter much anyway. We'll have to keep this issue in mind, though, as a potential limiting factor for some of the more deeply rooted exotic species we'll be evaluating as part of CCTGA's tree improvement effort.

With all the work and time that goes into raising Christmas trees from transplants to harvestable sizes of 7' to 15', it's hard for growers to realize that their trees are still physiologically immature at harvest. Planting 3 to 5 year old transplants, nourishing them, protecting them, endlessly worrying about them and caring for the for 8 to 0 years – sometimes even longer – hardly seems like a blink of the eye. But strictly speaking, they are still quite young when they leave our farms.

Conifers especially the species that are grown as Christmas trees, are a hard and long lived bunch. In their native settings, it's not uncommon to see them reach amazing heights and live a hundred years or more. Even in Connecticut, where only white pines are native, specimens in landscapes, arboreta, and other plantings can be quite old and quite large. Like all woody plant with those longevity characteristics, they start out quickly, growing fast for the first third of their lifetimes and gradually slowing down as the years pass.

Continued on page 7

Trunk Splits/Cracks

Vertical trunk splits on recently harvested conifers are basically physical responses to largely physical or weather conditions during late autumn, harvest time, storage, transportation and display. They are essentially cosmetic problems that, with some rather minor fixes, are non-issues. Customers often view them as annoyances, however, and, in the name of being good business people, responsive growers/vendors are usually willing to replace them rather than debate simple physics.

While they can occur on any species, vertical trunk splits tend to more common in true firs, especially Frasers. Not surprisingly, most of the reliable information about this problem comes from North Carolina State University researchers. Jeffery Owen, an extension specialist, has prepared two informative articles, both available on-line. I've prepared a short review of those articles are show below.

Vertical cracks are more likely to occur on trees that lose moisture rapidly in a short time after harvest when post harvest conditions are warm and dry. This situation is more likely to occur on trees cut early for wholesale, but can also occur with choose and cut trees, especially if they are stored improperly and there is a significant delay before they are set-up in a proper stand.

The cracks usually start in the outer ring or rings which, of course, are the youngest, fastest growing tissues, contain the most water and consequently, lose that water faster than inner tissues. Rapid water loss in an outer ring creates a difference in capillary tension between the cells in lower wood and cells further up, resulting in contraction of wood tissues which, if it persists, could create a crack.

All of this is usually starts at the base of the cut three where hairline cracks incurred during harvest are and then work upward. In some cases, it is possible that the problem can be exacerbated by mistakes during harvest but it's far more likely a function of warm conditions at harvest and poor storage methods. We had some warm weather leading up to and early on in the 2012 harvest season. Trees affected by vertical cracks can still be set up in stands and will take up water and function as well as any other tree. They can be repaired with equipment like automotive hose clamps and even wood screws. In reality, though, a cracked tree is viewed by customers and replacement is often the best strategy.

Vertical cracks can develop in the wood of most any tree, softwood or hardwood. They can develop in standing trees, potentially reducing vigor and longevity. They can occur post-harvest in mature trees, which could affect lumber quality. More likely, they occur in immature conifers harvested as Christmas trees. This pattern of decline and failure is common.

Conifer Collapse Disorder?

By far, the most common problem reported by growers in the last year or two has been the apparent sudden failure of trees of all sizes but especially near or ready for harvest. The common scenario described by most has been: trees in perfectly good condition, with good annual growth and shiny green needles progress rapidly to a dull appearance which is followed by an overall brown look – all often occurring over a period of 2 to 3 weeks. In the past, this problem has been confined to true firs, especially Fraser fir but reports in the past year have involved all species.

Continued on page 10

Articles by Jeffery Owen :NC State University: "When trunks crack: What should you do?" 2005 http://www.ncchristmastrees.com/splittrunks.pdf"Reducing truck splitting of Fraser Firs" 1999. By Jeffery Owen & Eric Hinesley, NC State University .http://www.ces.ncsu.edu/fletcher/programs/xmas/research/production/harvest/owen_trunksplitting.pdf

Twilight Meetings 2013

June 5 - Wednesday - 5:30 pm
Boyden Brothers Maple Farm

Host*: Howard & Jeanne Boyden*

78 Boyden Road Conway, MA 413 -369- 4665

Howard & his family first planted our Fraser Firs in 2004, on land that was tough to get large equipment on for harvesting hay or growing corn. Originally, Howard was raise on the family Dairy farm operated by his father . He worked at Orchard equipment while in high school and had to go back to the farm (Boyden Bros. Dairy) after the untimely death of his father in 1985, he managed the dairy farm with his uncle and then his cousin until 2001. In 2001, he went back to work for Orchard Equipment (now OESCO, Inc.) Currently they have added other species including white spruce and balsam firs from Downey Nurseries. They have about 1000 Christmas trees in the ground and sold their first trees this year.

Their main source of farming coming from their Maple production. He and his wife Jeanne , sons Matt & Josh produced over 1,000 gallons of maple syrup this year. Howard feels he is still learning the Christmas tree business and hopes to grow with the industry. Howard will give a class on sprayer maintenance, winterization, spring wake up, calibration and demonstrations. A light dinner will be served. Bring your Bug Spray!

Directions: Take I-91 North or South to Exit 24-Rte 5/Rte10 to Deerfield. Go 1 mile, turn left onto Rte 116. Go 3.8 miles. Bear right at the "Y" then take 1st Right onto Matthews Road. Go 1 mile, take 1st left onto Boyden Road. Farm is on the right.

June 12 - Wednesday - 5:30 pm
MerriHill Tree Farm

Hosts*: Jim & Ellen Colburn*

104 West Main Street Merrimac, MA 01860 978-346-4381

Jim and Ellen purchased the seventeen acre property in 1983, built a home and moved in with their two young sons in 1984. Once part of a larger farm known as Merrihead Orchards, the land had not been farmed commercially since the late 1940's. Jim cleared a portion of the back acreage and in 1987 the land was leased it to a young couple who had just started vegetable farming. Sandwiched between Route 495 and Route 110, the combination of the south facing land and the location on the main street in town contributed to their successful farm stand business of almost 20 years.

The first trees were planted in the spring of 2005. In 2012, MerriHill Christmas Tree Farm open its doors to the public as a *Choose and Cut* tree farm. Approximately 6,500 Fraser, Canaan, Douglas fir and some Blue Spruce trees are grown on about eight acres. Trees are priced and tagged individually, with the tag identifying the species and providing tree care information. Services include shaking, wrapping and assistance tying trees to customers' vehicles.

In 2008, Jim installed 4,500 feet of seven and one-half foot woven wire deer exclusion fence to surround the property. Although wood chips are used to retain moisture on the south facing field, recent dry conditions have contributed to a higher loss of trees of all ages. Most spraying has been limited to herbicides but currently, spraying to control cryptomeria scale has been necessary.

Jack Jackson & Laura Dooley of the Essex County Tree Farmers will be providing sandwiches and soft drinks prior to tour.

Directions: From Route 495 Exit 52, go east on Route 110 towards Merrimac. The farm is 2.5 miles on the right.

Twilight Meetings 2013

June 19 - Wednesday - 6:00 pm

Arrowhead Acres

Hosts*: Dave & Vicki Morin*

92 Aldrich St. Uxbridge, MA 01569 508 -278-5017

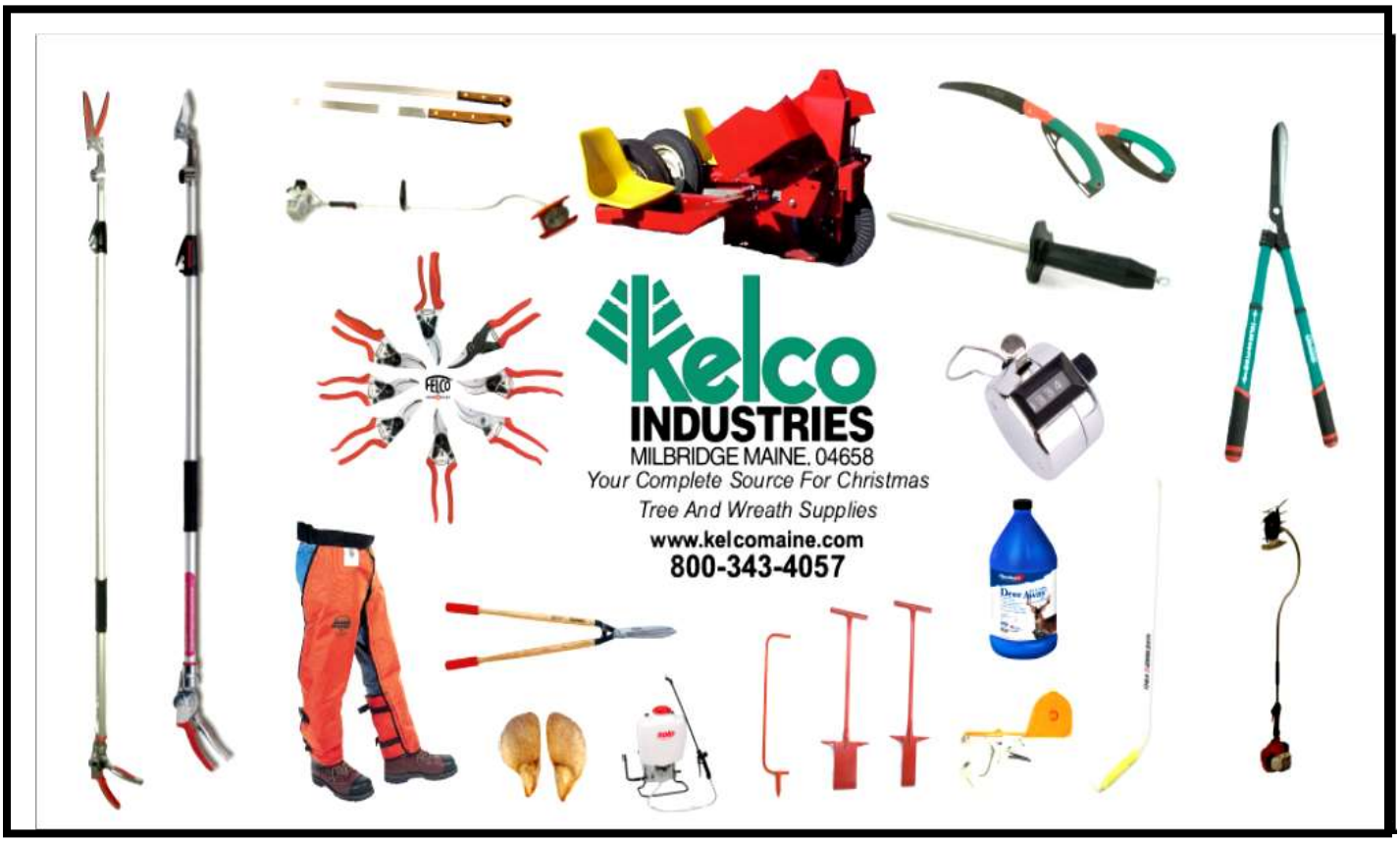
Dave started planting trees in 1988 on freshly cleared forest land and planted 2-0 plugs directly into the field. The biggest challenge was weed and brush control. At their peak, Arrowhead had 30,000 trees in ground and the choose and cut farm harvested roughly 2000 trees per year. However, the anticipated sale of the property 10 years ago prompted him to stop planting trees for several years. That was a mistake because the property never sold and are in catch up mode. There is another purchase option in the works for 20 acres of the farm, but it is a 50/50 chance of happening.

Currently they have 17 acres of trees and own 44 acres in total. They grow approximately 20,000-25,000 Fraser and Concolor firs, and plant roughly 2000-4000 plugs per year in a 5 x 5 spacing. The farm is very rocky with a lot of wetlands. They have few trees over 7'-8' tall but have always been able to sell every marketable tree over 3-4 weekends during the season. All trees are priced at $60 and sell around 500 trees per year.

Dave has not fertilized or sprayed pesticides in over 10 years and has damage from Balsam Twig Aphids. Farm maintenance includes mowing and Roundup for grass, weed and brush control. About 15+ years ago, they diversified into agri-tourism activities with hayrides, petting farm, outings and functions. They decided to discontinue the hayrides and ancillary functions and focus on the wedding business, which has become their primary business.

Directions: from Mass Pike or Rte 20. Take Rte 146 South to Exit 2 onto Rte 146A/Uxbridge. Take 1st Right onto Aldrich Street/Rt. 98. Arrowhead Acres .4 mi on left.

For Directions to any farm go to: **www.mapquest.com**



Cultural and Pest Management continued from page 7

for root and lower trunk disorders caused by Phytophtohora species and similarly acting fungal diseases which have been generally assumed over recent years to be the causes of past tree losses. However, in nearly 200 symptomatic trees sampled by me and colleagues at the Experiment Station in the past two years, Phytophtohora has been isolated from only one tree and no other disease causing organisms have been found.

It's possible that this problem can also be explained by physics, in this case, soil physics. Trees depend on their roots to grow in soil and to take up moisture and nutrients, move them up to branches and foliage and to also store carbohydrates during dormant periods.

Root health is dependent on a continuous, balanced supply of oxygen and water. When soils become water logged, oxygen levels decline and root health will also decline, killing the roots if the condition persists. In contrast, when soils dry excessively and water availability declines, roots can be adversely affected. In each case, root dysfunction can result in exactly the decline and death routines as have been described recently.

If this mode of death is what is happening on so many farms, it won't be easy to prove. Careful excavation of roots while examining soil conditions is a tedious, time consuming task. It's frustrating to see trees die and not know the answer. I plan to continue looking at this issue along with other colleagues and growers. In the meantime, new cultivars being evaluated by our tree improvement efforts may also help provide some clues.

Curbside Survey

Each year, in the first weeks of January, I try to drive through neighborhoods in towns in Hartford area that curbside pick-up of discarded Christmas trees to examine trees put out by residents.

continued on page 13

M.C.T.A. ANNUAL MEETING

August 24, 2013 – Saturday

SEEKONK TREE FARM

32 Seekonk Cross Road Great Barrington, MA 01952

Hosts: *Peter & Carol Sweet & Family*

***Guest Speaker**: Dr. Elizabeth Lamb of New York State Integrated Pest Management Program, Cornell University*
(PESTICIDE CREDITS WILL BE OFFERED)

The Sweet's farm is located in a beautiful scenic area and was originally part of a large dairy farm. Peter Sr. started the farm on a part time basis in 1978, planting a few hundred Scots Pine and Douglas Fir He retired from teaching in 2000, after 28 years of teaching technology. The farm consists of two (2) seven acre parcels, in close proximity to each other. The entire farm is in its second rotation or in some cases, third rotation of trees. Currently, the majority of trees grown are Firs with the most popular being Fraser fir. Seekonk Tree Farm is primarily a choose and cut , however many tree species are grown just for the balled and burlap nursery business. During the season, they offer potted trees and fresh, pre-cut trees at their house and their farm stand.

The Sweet Family works their farm full time and is extensively involved in the tree business. Peter Sweet Sr. performs the cultural aspects of growing a variety of evergreens both for Christmas trees and landscape plantings. Carol Sweet does the office work, assists with some of the cultural practices. She makes and manages the fresh green accessory products and decorations in their shop. Peter Sweet Jr. owns and operates "Sweetscapes Landscape Contracting and Nursery". Peter Jr. owns a third parcel of trees for Christmas and nursery material. Peter Jr. is also a master gardener and cultivates a prize winning giant vegetable patch. Son Christopher, owns and operates "Sweet Tree Service", a full service tree maintenance business. The large variety of tools and equipment used on the farm and in ancillary businesses will be on display.

8:00-9:00 :	Registration :	Coffee & Pastries. Socialize, visit vendors.
9:00-9:20	Welcome:	Peter Sweet: Introductions of guests, meeting agenda, farm history
9:20-10:00 :	Annual Meeting:	Rob Leab: MCTA Business Review (with handouts)
10:00 10:30	MDAR & Farm Bureau	Representatives from Dept. of Agricultural Resources, Farm Bureau and vendor introductions
10:30 -12:00	*Dr. Elizabeth Lamb* *Peter Sweet*	Discussion of important insect, disease and weed issues in 2012. Control strategies for 2013, record keeping and resources to keep ahead of pests.
12:00 – 1:00 :	Lunch	<u>BRING YOUR OWN CHAIR (S)</u>

1:00-3:00	<u>Session "A"</u>	<u>Session "B"</u>
	Farm tour and IPM Practices with Dr. Elizabeth Lamb & Peter Sweet Sr. Weed control , fertilization, and mowing practices. Discussion of soil type , water movement with site specific planting. Pest management with focus on elongate hemlock scale	*Wreath & Fresh Green Product Decorating with G. Ellsworth* Group participation. Have some fun creating some new designs together. Bring a pair of shears & scissors
3:00:	Peter Sweet Jr. : A short tour of the cultural practices of a prize winning giant vegetable patch. Q & A included.	

<u>Directions:</u> From the Mass Pike take Exit 1 onto Rte 41 South. Go 7.4 miles. Take Right onto Division St. Go 2.1 miles. Take Right onto Seekonk Road, go .5 miles. Take right onto Seekonk Cross Road. Farm on 200' on left.

From Rte 7: Go to center of Great Barrington on Main St. by Berkshire Chamber of Commerce. Take Taconic Ave which turns into Alford Road. Go 2.5 miles. Take left onto Seekonk Road. Go .5 miles. Take right on Seekonk Cross Road. Farm 200' on left.

MCTA Annual Meeting Registration

Saturday, August 24, 2013

Seekonk Tree Farm - Great Barrington, MA

Deadline: for meal count August 19, 2013

Name _____

Address _____

City_____

State_____ Zip_____

Cost : Members & Other Association Members $20 per person

No. of persons _____X $20.00 = $_____ total

Non-Members: _____X $30.00 = $_____ total

Make checks payable to MCTA

Send To: ***MCTA Jim Colburn***
104 West Main Street, Merrimac, MA 01860

MASSACHUSETTS CHRISTMAS TREE RESOURCES

Mass Department of Agriculture
www.mass.gov/agr
Umass Extension Service
extension.umass.edu/agriculture

Soil Testing Lab:
Soil & Plant Tissue Testing Lab
West Experiment Station
682 North Pleasant St.
Umass, Amherst, MA 01003
(413) 545-2311
Fax: (413) 545-1931
soiltest@psis.umass.edu

Umass Plant Diagnostic Lab
101 University Drive, Suite A7
Amherst, MA 01002
(413) 545-3208
Fax: (413) 545-4385Umasssgreeninfo.org

Landscape & Nursery Insects
Bob Childs (413) 545-1053
rchilds@psis.umass.edu

Landscape & Nursery Diseases
Dan Gillman, (413) 545-3208
dgillman@umext.umass.edu

Landscape & Nursery Weeds
Randy Prostak, (413) 577-1738
rprostak@umext.umass.edu

DON'T FORGET TO RENEW
YOUR M.C.T.A MEMBERSHIP TODAY!

Christmas Tree Farmers Association of New York

Summer Meeting

July 18 – 20, 2013

Host : Bell's Christmas Trees – Accord, NY
& Maplehorst Farm Nursery , Monticello, NY

Highlights Include:

- Tree Planting & discussion of Exotic Firs
- Wholesale Grading Part I & 2
- Field Stations – small trees to ready to sell
- Pruning of different species
- IPM – EHS and other IPM issues
- IPM – Why My Trees Die?
- Chemical Mowing
- IPM – Insect ID & treatment
- Farm Tours
- Theft, Security, and Fire Protection
- Spray Equipment Calibration
- Liquid Fertilizers
- Beneficial Birds
- Bow making, Wreath and Kissing Ball making
- Wreath decorating for commercial use, consumers
- and children
- Christmas Shop I & 2 and working with vendors
- Reaching Out to Customers with the Media

For Details on the Program Agenda & Registration Go to:
www. christmastreesny.org/

Cultural and Pest Management continued from page 10

This "curbside survey" was a tradition started by John Ahrens and John Dzen many years ago to get ideas about what species people were buying and how well (or poorly) the trees fared with needle retention. It's not exact science by a long stretch – I have no knowledge of where the trees came from (choose and cur vs retail lot), or how trees were treated before going in the house, tree stand type, level of attention to water needs and other aspects of how they were cared for while on display such as heating/lighting conditions.

Over the years, though, I have become quite good at identifying species (I'm starting to recognize differences between Fraser and Cannan firs) and observing evidence of needle shedding (it shows up better if there is snow on the ground) and spotting the presence of some needle pests like the armored scales.

Based on this year's survey, true firs (including a few Concolor firs) were the most commonly purchased trees in 2012. Followed, at a rather long distance and in descending numbers by Blue spruce, Douglas fir, White spruce, and White pine. This order probably reflects what most farms have observed in their sales. The most interesting observation this year was that the species I saw with the largest percentage of trees that had significant shedding was true fir and, if my identification skills are good, I'd say most of them were Cannans.

Needle shedding is mostly a function of the level of care and attention tree receives from the time is cut until it leaves the house than anything else so, without knowing if those shedding firs were fresh cut at a local tree farm or if they arrived in Connecticut several days longer after being cut, it is difficult to draw conclusions. But this observation may also be a reflection of how trees of how trees fared on our own farms, transitioning from an extremely moist year in 2011 to a much drier one in 2012. *Continued on page 16*

What's in the Water?

Alkalinity and Growing Conifers

By Elizabeth Lamb, NYS IPM Program

Reprinted From Cornell University, New York State IPM. Ornamental Crops IPM Newsletter: Spring 2011.

nysipm.cornell.edu/nursery_ghouse/newsletters/default.asp

Most of us remember learning about pH in high school chemistry – acids and bases and what happens when you mix them together. That's right – pH is a measure of the concentration of positively charged hydrogen ions dissolved in the water. The higher the concentration, the more acid the water is. Alkalinity is also based on what is dissolved in the water, but in this case it is the concentration of alkalis – compounds like calcium carbonate – which when dissolved form negatively charged ions. So water with high alkalinity tends to neutralize acids and tends to have a basic pH.

Thanks for the chemistry lesson – why do I need to know this? Because the pH and alkalinity of your water can affect your conifers and any other plants you are growing.

All plant species have soil pH ranges that are optimal for growth. Often they match the conditions where the plants are native. Trying to grow a conifer out of its pH range can result in poor growth or yellowing of needles. Finding exact information on ranges can be difficult but the ollowing table should help.

Species	Optimal pH range
Fraser fir	5.3-5.7 (not above 6)
Balsam fir	4.5-6.0
Canaan fir	5.5-6.5? (higher than Fraser)
Concolor fir	4.5-7.0
Douglas fir	3.7-6.5 (Rocky Mountain 5.5-7.5)
Blue spruce	5.5-6.0
White spruce	4.8-6.5
Scotch pine	5.0-6.0
E. white pine	4.8-7.4

Soil pH can also affect soil fertility. Some nutrients get tied up in compounds that can't be taken up by the tree's roots at certain pH levels. For example, nitrogen, potassium, calcium and magnesium all become less available to plants at pH's below 6.

If you are growing your trees in low pH soils, you might need to take that into consideration when planning a fertilizer program. Different fertilizers also have different effects on soil pH so you may be able to match your soil pH to your fertilizer for best results. Ammonium and urea forms of nitrogen are acidic and nitrate forms are basic. Fertilizers may have a mix of types so check the label.

The pH and alkalinity of your water source can also affect your production. For example, alkaline water will reduce soil pH over time. Few field grown conifers grown in NY are irrigated, so this may not be a concern but for those grown in pot production, irrigation water may need to be acidified to maintain the low soil pH desired.

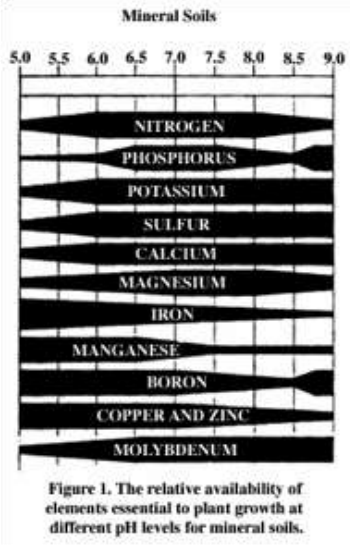


Figure 1. The relative availability of elements essential to plant growth at different pH levels for mineral soils.

The pH and alkalinity of your water can also affect how your pesticide applications work. In some cases, high alkalinity causes the active ingredient to break down. The following tables list the optimum water pH of certain insecticides and miticides and comments from the Cornell Pest Management Guide for Commercial Production and Maintenance of Trees and Shrubs.

Common Name	Optimal Water pH	Tree and Shrub Guidelines
Abamectin	6.0 to 7.0	
Acephate	5.5 to 6.5	
Acetamiprid	5.0 to 9.0	
Azadirachtin	5.5 to 6.5	Do not mix with alkaline materials, buffer water to pH 3-7
Bifenazate	6.5 to 9.0	Do not mix with alkaline materials, buffer water to pH 7
Bifenthrin	5.0 to 9.0	
Carbaryl		Buffer water to pH 7

Common Name	Optimal Water pH	Tree and Shrub Guidelines
Chlorpyrifos	5.0 to 9.0	
Dimethoate		Do not mix with alkaline materials
Dinotefuran	5.0 to 8.0	
Etoxazole	6.0 to 8.0	
Fenpyroximate	5.5 to 6.5	
Flonicamid	4.0 to 6.0	
Fluvalinate	5.0 to 7.0	
Imidacloprid	5.0 to 7.0	
Insecticidal soap*	6.5 to 7.5	
Methidathion		Do not mix with alkaline materials
Neem oil**	5.0 to 7.0	
Phosmet		Do not mix with alkaline materials, buffer water to below pH 6
Pymetrozine	7.0 to 9.0	
Spinosad	6.5 to 7.5	

** Active Ingredient=Potassium salts of fatty acids*

*** Active Ingredient=Clarified hydrophobic extract of neem oil*

What's in the Water? continued

Water pH over 7 can affect the efficacy of glyphosate (Roundup), paraquat (Gramoxone), bentazon (Basagran), clethodim (Envoy), sethoxydim (Poast), and 2,4-D (many products) (from Weed Management In Nursery Crops, Dr. James Altland, Oregon State University).

Adapted from Ray Cloyd, GrowerTalks.

How do you know what your soil or water pH and alkalinity are? There are many reasonably priced ($30 to $250) pH meters available When selecting a pH meter, look for an accuracy of ± 0.1 pH unit and a range of 1 to 14. Be sure to purchase solutions for calibrating your pH meter and remember to calibrate it before use. Test kits are available for measuring water alkalinity. Look for one that measures in a range of 0 to 8 meq/L (0 to 400 ppm alkalinity expressed as CaCO3). If you don't want to do it yourself, most labs that do complete water and soil analysis include both pH and alkalinity in their reports, which cost between $30 and $60.

For more details go to : Elizabeth Lamb at: eml38@cornell.edu

Cultural and Pest Management Update continued from page 13

2012 Growing Conditions

Matching the success most Connecticut tree farms had during the cool, moist 2011 growing season was a tall order, especially when that season turned into the fall that wouldn't quit and dormancy was in doubt. And 2011 was a good year – every farm I knew about had great trees. We were quite concerned that trees didn't achieve sufficient dormancy to survive even an average winter but they made it into spring and 2012 was off and running.

After all the fretting about the weather, the 2012 growing season turned out to be pretty average – no real temperature extremes: less rainfall but no big gaps between rain events; and that was reflected this past Christmas with another pretty good harvest. In Table 1, the growing season weather data recorded at the Connecticut Agricultural Experiment Station's Lockwood Farm in Hamden. I chose to use the Lockwood Farm rather than data from the Valley Lab data because the raw data is available to the public on the Experiment Station's website and it also has compiled rainfall data from 1931-1960 for comparison model.

Link to site is: www.ct.gov/CAES/site/default.asp Click on weather. For more info email me at thomas.rathier@ct.gov.

Table *2* is Massachusetts Regional growing season weather data recorded between 2005 – 2012.

**Massachusetts Data is based on the premise of an 8 year rotation (average number of years to produce and harvest a Christmas tree) Data sources included the nwss.org/boston, Umass Extension Landscape Messages*

Growing Degree Days 2008 to 2012 Hamden CT.

( ) Number of days in month over 90 ^{0}

Growing Degree Days - Lockwood Farms Hamden, CT

	Mar	Apr		May		June		July		Aug		Sept		Oct
2008	10	147		256		605	(3)	766	(4)	603		477		174
2009	25	157		298		464		637		725	(3)	397		144
2010	54	182	(1)	418	(1)	624	(1)	828	(9)	712	(4)	527	(3)	209
2011	24	116		356		555	(1)	800	(1)	685		535		219
2012	115	157		383		526	(3)	785	(1)	710		478		233
5 yr. Avg	45	152		342		555		763		687		483		196

Monthly Precipitation Rates 2008 to 2012 Hamden CT.

	Mar	Apr	May	Jun	Jul	Aug	Sep	Oct
2008	5.1	5.1	3.1	3.8	4.1	5.2	9.0	3.8
2009	2.5	5.0	4.1	7.7	6.5	3.5	3.2	6.9
2010	12.5	1.7	4.7	3.6	3.7	4.5	3.4	5.2
2011	5.4	6.4	6.9	7.0	2.5	14.3	7.8	5.2
2012	1.7	4.0	4.7	6.3	4.3	5.3	4.9	4.0
5 yr. Avg.	5.4	4.4	4.7	5.7	4.2	6.6	5.7	5.0
Avg. Preciptation 1931-1960	4.8	4.2	4.1	3.7	3.6	4.2	4.3	3.7

Data collected from ct.gov/CAES/site/default.asp under weather data

Table 1

Table 2

Massachusetts Growing Season Regional Average Growing Degree Days and Precipitation Rates 2005 - 2012

(*Number in parenthesis denotes number of days over 89 degrees)

Cape Cod MA — Growing Degree Days 2005 - 2012

	Mar	Apr	May	June	July	Aug	Sept	Oct
2005	2	59	99	505	673	707	490	241
2006	4	66	128	634	756	638	377	157
2007	29	62	254	406	702	566	531	158
2008	14	72	137	490 (1)	702 (4)	572	433	154
2009	3	57	176	346	569	729	572	97
2010	21	97	382	462	763	690	429	208
2011	9	76	300	468 (1)	768 (1)	655	429	301
2012	75	122	308	492 (3)	746 (1)	675	323	n/a
8 yr. Avg.	20	76	223	475	710	654	448	188

Cape Cod MA — Monthly Precipitation 2005-2012

	Mar	Apr	May	June	July	Aug	Sept	Oct
2005	6.1	3.6	5.2	0.6	2.0	0.9	4.3	1.8
2006	0.8	2.3	6.4	11.3	2.6	3.4	2.5	2.8
2007	5.3	8.5	2.9	1.4	3.6	1.3	2.4	2.1
2008	4.8	4.3	3.5	2.3	4.1	3.0	7.5	2.1
2009	3.8	5.8	2.9	3.3	6.6	5.7	3.4	8.1
2010	8.1	1.4	3.2	3.2	3.2	3.9	4.6	7.3
2011	1.9	7.1	2.8	3.8	3.6	4.6	5.2	6.5
2012	1.7	1.9	6.6	1.8	4.6	4.4	4.5	3.2
8 yr Avg	4.0	4.4	4.2	3.5	3.8	3.4	4.3	4.2

Southeast MA — Growing Degree Days

	Mar	Apr	May	June	July	Aug	Sept	Oct
2005	6	85	115	597	709	688	439	190
2006	4	106	111	660	708	579	305	170
2007	28	72	244	394	716	530	621	144
2008	16	94	162	496 (5)	676 (7)	540	373	132
2009	0	65	197	370	509	691 (6)	354	77
2010	25	95	381	461 (3)	762 (7)	662 (6)	355 (2)	167
2011	15	84	299	436 (3)	739 (5)	637 (1)	369	206
2012	86	125	301	458 (4)	720 (9)	641 (4)	515	51
8 yr. avg.	23	91	226	484	692	621	416	142

Southeast MA — Monthly Precipitation

	Mar	Apr	May	June	July	Aug	Sept	Oct
2005	4.0	5.0	5.6	1.5	2.6	5.5	3.4	2.1
2006	0.4	2.4	8.4	13.7	2.5	4.2	2.4	5.5
2007	6.1	8.4	2.8	3.6	3.6	1.3	2.4	2.9
2008	5.6	4.2	2.1	2.7	4.8	4.8	9.7	2.5
2009	3.4	5.9	2.9	4.8	8.3	6.4	2.4	7.5
2010	13.7	1.4	3.2	2.6	4.0	4.7	2.2	5.1
2011	2.3	5.2	3.5	3.7	2.6	6.1	6.1	8.1
2012	1.5	3.6	4.7	3.6	3.5	4.3	4.5	5.3
8 yr. Avg	3.3	4.1	3.3	3.5	4.6	5.3	5.0	5.7

East/Northeast — Growing Degree Days

	Mar	Apr	May	June	July	Aug	Sept	Oct
2005	0	89	107	584	747	659	536	129
2006	6	119	124	704	794	658	350	n/a
2007	35	106	277	454	677	593	576	168
2008	19	92	167	558 (4)	687 (4)	559	394	0
2009	0	69	235	394	524	782 (7)	464	77
2010	20	89	429	527 (2)	812 (15)	745 (6)	486 (2)	223
2011	12	77	303	379 (2)	855 (9)	736 (2)	491	324
2012	103	127	284	523 (5)	798 (10)	712 (6)	510	193
8 yr Avg.	28	768	241	515	737	681	476	186

East/Northeast — Monthly Precipitation Rates

	Mar	Apr	May	June	July	Aug	Sept	Oct
2005	4.4	4.6	6.7	2.1	5.1	4.0	1.7	2.6
2006	0.5	2.6	13.5	10.0	4.5	4.0	2.3	5.5
2007	5.4	8.2	3.9	3.7	3.3	1.1	2.2	3.2
2008	5.5	3.8	2.5	3.8	7.1	4.6	8.4	2.7
2009	3.3	4.2	3.6	5.2	8.1	3.6	2.5	5.9
2010	15.2	1.6	3.2	2.1	1.6	5.3	1.9	4.7
2011	3.1	4.3	2.9	5.0	2.8	10.9	6.1	8.3
2012	1.3	3.2	4.0	4.7	2.9	4.0	4.2	4.4
8 Yr. Avg.	4.8	4.0	5.0	4.6	4.4	4.7	3.7	4.7

Table 3

Massachusetts Growing Season Regional Averages of Growing Degree Days and Monthly Precipitation Rates 2005 - 2012

(*Number in parenthesis denotes number of days over 89 degrees)

Central MA — Growing Degree Days

	Mar	Apr	May	June	July	Aug	Sept	Oct
2005	0	59	98	605	697	807	471	n/a
2006	4	78	93	646	787	578	283	65
2007	4	61	236	387	672	540	473	105
2008	4	84	145	536 (4)	660 (6)	490	336	79
2009	2	55	205	372	484	732 (7)	362	40
2010	10	70	389	494 (3)	757 (15)	705 (8)	411 (2)	155
2011	4	65	317	456 (3)	792 (11)	659 (2)	414	70
2012	65	63	314	481 (5)	756 (13)	634 (6)	410	74
8 yr. Avg	12	67	225	497	701	643	395	84

Central MA — Monthly Precipitation

	Mar	Apr	May	June	July	Aug	Sept	Oct
2005	4.7	6.1	4.4	2.9	4.6	3.1	2.6	2.3
2006	0.6	2.3	7.3	10.0	4.0	4.9	2.2	6.6
2007	4.8	7.9	4.1	2.7	5.5	1.6	2.2	3.5
2008	5.4	4.3	2.2	3.6	6.6	4.3	9.0	3.0
2009	3.1	4.1	3.6	6.0	9.1	3.2	1.5	4.8
2010	10.6	1.4	3.4	3.5	4.0	3.6	2.5	6.2
2011	4.7	4.9	3.5	6.4	1.9	11.7	7.1	6.9
2012	1.5	3.5	4.0	4.8	2.3	5.4	5.0	5.7
8 yr Avg	4.4	4.3	4.1	5.0	4.7	4.7	4.0	4.9

Pioneer Valley MA — Growing Degree Days

	Mar	Apr	May	June	July	Aug	Sept	Oct
2005	4	115	146	684	714	659	365	n/a
2006	3	131	118	699	742	582	323	94
2007	18	87	210	394	664	535	492	127
2008	4	138	166	532 (4)	504 (5)	652	379	116
2009	11	82	186	411	475	671 (7)	333	56
2010	23	102	406	434 (3)	736 (17)	649 (7)	432 (3)	317
2011	6	56	336	479 (4)	762 (11)	621 (2)	446	183
2012	88	92	366	504 (5)	774 (13)	647 (5)	386	124
8 Yr. Avg	20	100	242	517	671	627	395	145.3

Pioneer Valley MA — Monthly Precipitation

	Mar	Apr	May	June	July	Aug	Sept	Oct
2005	4.2	5.7	2.8	4.2	3.2	3.4	2.2	2.6
2006	0.7	3.4	6.7	11.3	2.6	4.3	3.0	7.1
2007	5.5	7.6	2.4	4.2	5.8	1.3	2.8	3.9
2008	6.6	4.7	1.9	6.0	8.2	4.4	7.7	3.2
2009	2.7	3.1	4.0	6.3	9.7	4.9	1.4	5.2
2010	6.3	1.0	2.3	3.5	2.5	2.5	3.0	8.0
2011	5.7	5.5	4.2	6.8	2.0	10.8	6.5	6.5
2012	1.6	2.6	5.3	3.9	2.3	5.1	6.3	3.6
8 yr Avg	4.2	4.2	3.7	5.8	4.5	4.6	4.1	5.0

Bershires MA — Growing Degree Days

	Mar	Apr	May	June	July	Aug	Sept	Oct
2005	1	99	135	658	652	592	285	n/a
2006	0	74	103	617	700	557	312	n/a
2007	8	37	264	406	709	578	619	147
2008	2	132	131	499 (3)	702 (5)	597	455	110
2009	9	74	195	486	598	737 (2)	342	35
2010	7	88	360	414 (2)	679 (3)	557 (1)	357 (3)	141
2011	8	86	340	386 (1)	625 (3)	545	350	81
2012	62	82	376	455 (3)	677 (2)	553 (2)	298	105
8 yr. Avg	12	84	238	490	668	590	377	103

Berkshires MA — Monthly Precipitation

	Mar	Apr	May	June	July	Aug	Sept	Oct
2005	4.2	3.5	2.1	4.4	3.4	3.6	1.6	2.2
2006	0.8	4.2	6.0	6.7	2.9	4.0	3.8	5.2
2007	4.5	6.5	2.1	3.3	5.7	1.9	3.6	5.1
2008	5.9	2.9	2.4	8.1	6.2	3.3	6.2	4.4
2009	2.5	1.7	4.6	6.6	9.3	6.6	1.5	5.4
2010	4.9	1.0	3.0	4.1	4.4	2.7	2.9	7.9
2011	4.1	5.1	3.6	5.8	2.8	11.2	10.3	3.9
2012	1.1	2.2	7.9	2.7	2.5	5.4	6.0	4.8
8 yr Avg	3.5	3.4	4.0	5.2	4.6	4.8	4.5	4.8

Resources for Data Collection include: NOAA.org/weather. NWSS, Boston and Massachusetts Regional data, and Umass Extension .edu, Landscape messages/archives.

Growing degree days +/- 1° Calculated on 30 day monthly calendar

What Does It Matter?

Mark Twain once said, "Everybody talks about, but no one can do a thing about the weather!" And there is no group of people that this statement applies to more than those dealing with agriculture.
It's April 15th . Dust off the tanks, resize the Tyvek suit, change the carbon filters, mix this with that , and with hose in hand, off you go to the fields for another season of pest control. Is that you? What does it matter when it come to pest management ?

Types of Pest Management

"Calendar Dating" is the process of pest control which usually involves pesticide applications based on specific calendar date, regardless of weather patterns, temperature and climate changes from year to year. This type of application is made regardless of a verified presence of current insect activity or damage. It is a method where weather conditions and insect development is not used and is a difficult to predict proper timing and control measures , and could end up being more costly .

"See & Spray" is another method where pesticide application is used at random. The "See & Spray" philosophy is spray only when the pest or damage is seen. In some cases, application is based only on damage, not actual pest presence. Some farmers like this method because they believe it reduces the amount of pesticides used on their farms. Unfortunately, by the time the damage to the tree is seen, the insect population may have grown to an extent where the damage is irreversible or repeat applications of insecticides may be necessary or be applied too late to spray an effective control agent.

"**Growing Degree Days and Insect Growth and Development"**

Insect growth , like plants and many other organisms are affected by two major factors, time and temperature. Insects are unable to maintain a constant body temperature. Because they are cold-blooded, their body temperature varies with the temperature of their surrounding environment. Insects require a certain amount of heat to develop from one stage in their life cycle to another (eggs to larvae to pupae to adults).

These organisms begin developing when the temperature exceeds the lower developmental threshold or base temperature. The rate of development increases as the temperature exceeds the base temperature and decreases as the temperature drops. Thus, insect development is accelerated during warm years and delayed during cooler years. Developmental thresholds are different for all insect species.

Upper developmental thresholds, temperatures above which growth slows or ceases, are seldom used for insects since these thresholds are either not known, or they live in habitats where the upper threshold is seldom exceeded.

The amount of heat required by an organism to complete its development is known as physiological time. Physiological time is usually expressed in units called degree-days. Degree-days measure insect growth and development in response to daily temperatures. Degree-days are the accumulation of heat units above some temperature (the lower threshold) for a 24-hour time period. One degree day results when the average temperature for a day is one degree over the minimum threshold. The accumulation of degree-days can be added over a period of time and used to estimate growth and predict insect development.

Note that under drought stress, GDD requirements will be toward the low end of the reported range for each stage, and wet environments delay insect growth and plant advancement toward the high range values reported for each stage.

continued

Accumulated Degree Days

Each developmental stage of an organism has its own total heat requirement . Development can be estimated by accumulating degree days between the high and low temperature thresholds throughout the season. The date to begin accumulating degree days, known as the biofix date, varies with the species.

What is a biofix?

A biofix is the date to start accumulating degree days for a particular insect or plant. Biofix dates are usually based on specific biological events such as the first occurrence of a pest or planting dates.
Examples are the first date an insect or weed seedling is observed or the date tree buds start to break. Degree days are reset to zero at the biofix date, no matter how many were accumulated before that. An example of Biofix is based on monitoring with pheromone traps. Placing pheromone traps prior to bloom. Begin accumulating degree days (base 50 F) on the day (biofix) at which the first moth is trapped, provided insects are captured on two successive trapping dates.
In northern states, the biofix for insects and plant development is normally March 1.

Growing Degree-Days (GDD) takes into account the average daily temperature by calculating the number of heat units received. Thus, this system can be more accurate than the calendar method for estimating insect development and timing management strategies. The easiest method is to average the daily maximum and minimum temperatures and subtract from-it the base temperature as follows:

The temperature must be at or above the minimum developmental threshold in order for insect growth to occur. Growth increases with higher temperatures up to a maximum temperature known as the upper or maximum developmental threshold. Once the upper threshold is surpassed, no additional growth occurs.

Chart 1 provides a list of growing degree day ranges that correspond with a particular pest life stage or life cycle event that is critical in the control of that pest.

Chart 1- Growing Degree Day Formula

Growing Degree Day Formula

Example:

$45^0F + 73^0F = 116 \div 2 = 59^0 - 50^0 = 9^0$ GGD

$$\frac{\text{Low Temperature + High Temperature}}{2} \; (-50^0) = \text{Daily GGD}$$

(Average Temperature for A 24-hour period)

(50^0 is the base temperature for calculation)

Date	Time	Air Temp			Daily GDD	GGD Total
		Low	High	Avg		
3/24	5:30	45°	73°	59°	9	9
3/25	5:50	35°	55°	45°	0	9
3/26	5:30	46°	60°	53°	3	12

**Do not ad negative numbers*

Monitoring Your Trees for Pest Populations

Monitoring incorporated with growing degree day information is the key to any successful IPM plan. IPM looks at pest management differently.

Monitoring to determine whether is a need to take action is more effective than either of the methods above and provides growers with an accurate picture of the pest situation on their Christmas tree farms. Monitoring includes the use of traps that catch pests to indicate their presence as well as direct observation by a scout. The process involves regular, close inspection of the trees on the farm for symptoms or signs of pest activity.

"Symptoms" refer to the damage or evidence of activity, such as yellowed needles or wilted shoots.

"Signs" refer to the actual organism (insect) causing the damage, such as black fruiting bodies on the underside of a needle or a bagworm case hanging from a branch.

By inspecting these symptoms and signs, noting the stage of development, and evaluating the level of infestation or infection, growers can create individualized, accurate, and timely plan of action for each field.

How to Scout for Pests

When monitoring, a scout needs to record dates and document symptoms, signs, population level, stage level, damage severity, field conditions, weather conditions and location of problem.

Continued

Tools for Scouting

Hand Lens:

A small magnifier allows the scout to see insects, mites and fungal fruiting bodies. Size range from 10X, 15X and 20X. The 15X hand lens is a good strength to use and still has reasonably sized field of view.

Flagging Tape & Marker

Brightly colored flagging tape to mark symptomatic trees so they can be located and identified at a later date. Use permanent marker to record specific information on tape of the tree with the issue.

Clipboard/Flat White Surface

Clipboard with a white piece of paper attached or any hard flat white surface is ideal to place under a branch to collect mites, aphids and other insects dislodged by tapping the branch.

Pruners/Pocket Knife

Easiest way to clip/slice into twigs and branches of symptomatic trees and collecting samples for identification by a diagnostic expert.

Clear Bottles/Plastic Bags

Sample collecting for examination at a later date. Easy transportation or to be sent to a diagnostic lab.

_____

Resources for "What does it matter?". Reprinted from IPM Basics ,Integrated Pest Management for Christmas Tree Production Guide for Pennsylvania Growers 2011 by the Dept of Penn State College of Agricultural Sciences: Michigan State University-IPM Landscape Resources. http://www.ipm.msu.edu/landscape.htm and NHVT Treeline Publication Jan. 2013.

Growing Degree Days Ranges for Christmas Tree Pests

Pest Name	Degree Day Range	Life Stage Comments
Bagworm	650–750*	Larvae emerge from bags
Balsam twig aphid	30–100	Overwintering eggs hatch
Conifer rust mites (eriophyid)	7–22	Overwintering eggs hatch
Cooley spruce gall adelgid	22–81	Spring control of overwintering stage
	2,800–3,000	Fall control of overwintering stage
Cryptomeria scale	600–800*	First-generation crawlers emerge
	1,750–2,130*	Second-generation crawlers emerge
Douglas-fir needle midge	200–400*	Adults emerge from soil
Eastern pine weevil	7–100	Overwintering adults become active
Eastern spruce gall adelgid	22–170	Spring control of overwintering stage
	2,800–3,000	Fall control of overwintering stage
Elongate hemlock scale	360–700	Crawlers first become active
European pine sawfly	78–220	Overwintering eggs hatch; larvae present
Gypsy moth	90–448	Overwintering eggs hatch; larvae present
Introduced pine sawfly	400–600	Overwintering eggs hatch; larvae present
Pales weevil	7–121	Overwintering adults become active; treatment to prevent egg laying
Pine bark adelgid	22–58	Spring control of overwintering stage
Pine needle scale	298–448	First-generation crawlers emerge
	1,290–1,917	Second-generation crawlers emerge
Pine root collar weevil	300–350	Overwintering adults become active
Pine shoot beetle	450–550	New adults emerge
Redheaded pine sawfly	400–600	Overwintering eggs hatch; larvae present
Spruce spider mite	50–121*	Overwintering eggs hatch
Striped pine scale (*Toumeyella* sp.)	400–500	Eggs hatch and first crawlers emerge
White pine weevil	7–58	Overwintering adults become active
Zimmerman pine moth	121–246	Larvae emerge from overwintering sites

*Based on observations in Pennsylvania.
Monitoring of GDDs begins March 1.

Monitoring Tips

During the growing season, a scout should monitor fields weekly.

1. Scout on cloudy days. The muted sunlight makes it easier to observe chlorotic, or yellowed, symptoms in the field. Some pests are more visible in subdued light.
2. When monitoring blocks for problems, select non-symptomatic trees in a random pattern to inspect. For these trees, be sure to look at the inside for discoloration.
3. Prune a few twigs from the interior and lower portion of the trees as well as the tips of the trees.
4. Tapping over a flat hard white surface will make the insects easier to see and to stay on the surface for inspection. TRAPPING several types of insects can be monitored by using traps. Traps are baited

The key to monitoring is to scout regularly, not just once or twice a season.

M.C.T.A. MEETING HIGHLIGHTS

April 10, 2013

Chicopee, MA: Attendance: Rob Leab, Dan Pierce, Joe Meichelbeck, James Colburn, Scott Dwinell, Greg Davagian, Larry Flaccus, Carol Nims, Dave Radebaugh, Peter Sweet, Seth Cranston, John Coward, Susan Lopes, Gloria Ellsworth, Cindy Cranston, Dave Morin, Rick Leblanc and Tom Cranston.

.

President Rob Leab: The minutes of the January 2013 meeting were approved as corrected.

Treasurer's Report: Joe Meichelbeck, distributed copies and reported on YTD spending and budget projections for the year. We continue on track towards a small deficit for the year due to the decrease in membership compared to the previous year. The cash balance for the year is projected to remain in the range of $38K. A budget for next year will be presented at the next Board meeting.

MDAR Report: Representative Rick LeBlanc reported the recent Ag Day at the Statehouse was well attended and noted the growth of the event since its inception and the many and varied levels of interest now. He explained that the MDAR is accepting applications through mid-June for many of the various grant programs that have been funded. Among the grants mentioned were the APR Improvement Program, MEGA (Matching Enterprise Grants for Agriculture) and various energy and ag-energy grants. All are referenced in the April/May Farm and Market Report.

NECTA Report: Rob Leab read a letter received from the New England Christmas Tree Alliance (NECTA). The letter outlined issues the Alliance had been dealing with for some time now related to its membership, the Big E display and conferences. Most notable has been a declining number of volunteers and participation by all the member states. The Board expressed its support for the Alliance but most importantly the support for the Big E display and tree contest. It was agreed that the issues should be presented to the entire membership at our next annual meeting in August.

Membership - The annual member renewal forms will l be mailed before the next Board meeting. The Board recommended that the late fee notice be added to the renewal invoice. To promote our organization and new membership, Rick LeBlanc offered to include information about our Twilight meetings in his regular news releases. Jim and/or Gloria will send a write-up to Rick.

Twilight & Annual Meetings – Twilight notices and information will be posted in May Issue and on our website under "Events". The Annual meeting notices will be posted in the May & August Issues, on our website under "Events" and added to the membership renewal mailings. Annual meeting is August 24, 2013.

Other Business - Secretary, Jim Colburn, reported that there is an electronic version of "The Southern New England Christmas Tree Grower's Manual," and as of the last issue of "Shearings," the URL has been published in the Other Publications & Resources section of our newsletter. The remaining four copies of the printed manual on hand will be distributed to new members, and then the practice will be discontinued. The board will arrange to have the link for the manual added to our website under "Educational Materials".

"Shearings" – An ad will be place in "Shearings" for a ten foot tree for the Big E. Gloria Ellsworth outlined some of her plans for the quarterly newsletter. The eventual goal is to move away from a hard copy version to save the association the high cost of production and limited sources of Print companies. Upcoming printed versions will be a standard size and the online version can be expanded and in a color format. Maintaining accurate email addresses continue to be a challenge.

Thank you to Susan Lopes and The Paul Bunyan Farm and Nursery. The location and meeting arrangements were excellent. The next meeting is scheduled for July 10, 2013, in Chicopee, Mass.

Respectfully submitted, Jim Colburn, Secretary

Farewell, Old Friend

By Tom Rathier

Reprinted from CT CTGA The Real Tree Line Newsletter February 2013 Vol. 53-#1

There has been an empty spot in the hearts of a lot of folks this past Christmas season. John Ahren's death in early November 2012, some twelve days short of his 83rd birthday, left a wide assortment of empty spots throughout his old Bloomfield and newer Simsbury neighborhoods, Hartford County, Connecticut, Vermont, New England, the United States, Canada and even beyond. The Ahrens Family struggled through their first Christmas without John. So did the Valley Laboratory. So did every customer who ever got their Christmas tree from Ahrens's Tree Farm. And so did every CCTGA member, past, present, and future.

It's hard to imagine that, in the past half century, there has been a single grower in Connecticut who has not benefitted in some way, either directly or indirectly, from one or more of John's contributions to the science of John's contributions to the science of, the business of, the common sense of and the spirit of growing conifers to be marketed and appreciated as Christmas trees. For that matter, it's hard to imagine that any grower in North America hasn't benefitted similarly.

In addition to his busy academic career in weed science, John spent hours on the phone with growers, experienced and newcomers alike, talking them down from the ledge of uncertainty about some aspects of tree health or cultural practice, He tirelessly attended twilight meetings and field days, demonstrating simple yet ingeniously practical approaches to conifer culture and weed management. He generously visited farms throughout Connecticut and the Northeast to show growers firsthand the practices that work best and, often, to install and monitor trial plantings and treatment experiments to learn more about Christmas tree culture and share that knowledge with everyone.

Among the many privileges I've enjoyed in the last decade or so, one of my favorites has been occasionally driving around Connecticut with John on what are known to agricultural scientists as road trips. More often than not, we visited Christmas tree farms to look at problems with growers or to help plan for an upcoming meeting. I usually did the driving and, if it was a long trip, John would nap off and on. In between those naps we would have great conversations about anything and everything. Of the many rites of passage that men observe, none are more powerful than driving with one's father in his later years to both trivial and important. Geography and a too early in life terminal illness robbed me of the opportunity to go on road trips with my dad very often. I'll be forever grateful that I had my drives with John.

One of those road trips in particular – a visit to Dzen Tree Farm in South Windsor several years ago to begin preparations for a fall field meeting later that year – was my favorite outing with John. The distance between the Valley Lab in Windsor and Dzen Tree Farm can't be much more than 6 miles as the Crow flies but the Connecticut River is in the way. In a motor vehicle, you have to drive either north on I-91 to get across the river and then head southeast on state and local roads. Or, g o south to I-291, over the Bissell Bridge to state and local roads. John was no stranger to the Dzen Farm where he had conducted many experiments over the years and had driven there hundreds, if not thousands of times and he always took the northern route. I had been in the habit of taking the southern route, probably because I used to live between the Valley Lab and the Bissell Bridge. Since I was driving, we started out southward.

We hadn't gone very far when John barked out, "Your going the wrong way!". He went on to explain that he, the model of thrifty driving, hadn't traveled the northern route all those years not to know that the 15 plus miles going that way was the shortest, most economic distance. I said that I didn't think my was that far but I'd never measured it. We decided that I would set the odometer to zero once we got to Dzen's and that we would drive back to the lab on the same route and settle the issue.

The younger, brasher, less respectful me would have handled the next conversation differently. " Twelve miles flat" was all I said. John looked a little shocked.

"No kidding?" was all he said. He didn't say much for the rest of the day. I think he may have been calculating how many extra miles he'd driven (and extra fossil fuel he used) over all those years.

We never talked about that day again. We did continue with our occasional drives into late last year. I enjoyed my time with my substitute dad on every chance I got. Farewell old friend! Time with you was never "going the wrong way". Thank you so much for so many years.

Submission Deadlines

- Jan. 15 (February Issue)
- April 15 (May Issue)
- July 15 (August Issue)
- Oct. 15 (November Issue)

" Shearings" On-line Coming to MCTA Website

2013 Shearings Issues and the Southern New England Growers Manual will be available on the MCTA Website as of May 1, 2013

Click on **"Educational Materials"**

"Shearings" Editor 2012
Gloria Ellsworth
246 School Street
Northborough, MA 01532
(508) 393-6479
Email:
shearings2u@verizon.net

2012-2013 ADVERTISING RATES

Size	Dimensions	One (1) Issue	Two (2) Issues	1 Yr.- (4) Issues
Full Page	7.5"w x 10" h	$ 86.00	$ 162.00	$ 304.00
2/3 Page	7.5" w x 6 ¾ " h	68.00	128.00	246.00
1/2 Page - Horizontal	7.5"w x 5" h	48.00	90.00	172.00
Vertical	3.5"w x 10" h	48.00	90.00	172.00
1 /4 Page	3 5/8" w x 5" h	32.00	56.00	104.00
Lg. Business Card	4 ¼" w x 3 ½ "h	26.00	48.00	92.00
Business Card	3 ½ " w x 2" h	20.00	38.00	74.00
Classified Ads – Non Members	Priced per word	Priced per photo		
Classified Ads – *MCTA Members*	*Free*	25 Words w/contact	**Buy-Sell or Trade**	Small photo's allowed

For more information and details or questions please contact: Gloria Ellsworth (508) 393-6479
Email to: shearings2u @verizon.net

Acceptance of advertising in the "Shearings" publication is not an endorsement by the M.C.T.A of any product or service and is not responsible for content or proofing of ad prior to publication.

MASSACHUSETTS CHRISTMAS TREE ASSOCIATION

www.christmas-trees.org

246 School Street Northborough, MA 01532