Greetings to all! I trust everyone had a wonderful holiday season and hope Christmas tree and greenery sales went well in your region.

First of all, I’d like to thank our newsletter editor, Pascal Nzokou. Pascal volunteered for this task and has done a great job of recruiting information and assembling our first newsletter. Also, thanks are due to all who contributed information. I am hopeful that this instrument will convey useful information and allow us to stay in touch during the time between our biennial conferences.

Also, I’d like to extend my gratitude and congratulations to our Danish colleagues for the superb job they did hosting our 8th Christmas Tree Research and Extension Conference during August 2007. Planning and implementing such a flawless conference takes much time and effort. The idyllic coastal location of Bogense, the informative technical and poster sessions, the wonderful food and drink, the stimulating field excursions, and especially the collegiality among the attendees combined to make for both an educational and memorable conference. Proceedings from the conference will be distributed to all attendees soon. I was fortunate to join a subset of attendees who participated in a three day excursion of Christmas tree production in southwestern Norway following the conference. This proved to be another educational and memorable experience. Special thanks are also extended to our Norwegian hosts.

The seeds of our IUFRO Christmas Tree Working Unit began in 1987 with a conference organized by Dr. Gary Chastagner and held at Washington State University in Puyallup. Since then, our group has grown and matured considerably. This newsletter represents another step forward for us. I hope you enjoy reading about endeavors of your research and extension colleagues in the world of Christmas trees and greenery.

Best wishes for a great 2008,

Dr. John Frampton

About the Christmas tree IUFRO Workgroup

The scope of this unit includes all aspects of Christmas tree and greenery production including nutrition, genetics, propagation, diseases, arthropod pests, weeds, production techniques, post-harvest quality, and marketing. While the indoor display of forest trees to celebrate Christmas is a centuries-old tradition, establishment and culture of plantations specifically for Christmas tree use is a relatively new development. During the last 20 to 30 years, as the worldwide consumption of real Christmas trees has risen to exceed 80 million annually, the science and technology behind plantation Christmas tree production has developed rapidly, particularly in Europe and North America. This unit provides a forum for the exchange of scientific research results among researchers, students, extension agents, and extension specialist who work professionally with the Christmas tree industry.
Highlights of the 8th CTRE Conference

Dr. Bert M. Cregg, Michigan State University

Fifty researchers from eleven countries attended the 8th International Christmas Tree Research and Extension Conference hosted by the Forest and Landscape Department of the University of Copenhagen on August 12-17, 2007. The conference program included 49 research presentations on Christmas tree genetics, production, tree health, and marketing. Participants also toured field research plots, local production areas, and attended the annual Langesoe Christmas Tree Fair, the largest trade show in the world devoted exclusively to Christmas tree production.

Efforts to reduce labor costs by mechanization in Denmark extend to container production of living Christmas trees. The forks on this loader can easily pick up and move 54 trees at a time.

Participants at the 8th International Christmas Tree Research and Extension Conference tour a study on environmental impacts of Christmas tree production near Rye, Denmark.

Formation of IUFRO Christmas Tree Working Group

To date, the International Christmas Tree Research and Extension conferences have been based on an informal association of Christmas tree researchers and extension personnel. In order to promote greater continuity in the meetings and information exchange among Christmas tree researchers, John Frampton (NCSU) spearheaded an effort to develop a Christmas tree working group within the International Union of Forestry Research Organizations (IUFRO). The IUFRO designation provides a permanent website http://www.iufro.org/science/divisions/division-2/ and ongoing means to share research results and announce future meetings. The 9th International Christmas Tree Research and Extension Conference will be hosted by Oregon State University in September 2009.

Alternative leader control methods such as the Top-stop nipper shown here or application of plant growth retardants are widely used in Nordmann fir production in Denmark.

Efforts to reduce labor costs by mechanization in Denmark extend to container production of living Christmas trees. The forks on this loader can easily pick up and move 54 trees at a time.

Growers from throughout Denmark bring their best Nordmann fir to the Langesoe Christmas Tree Fair to compete in the “Fight for the Golden Star.”
Recent Christmas tree publications


Nielsen, CCN &. Rasmussen, HN MS. Frost hardening and dehardening in Abies procera and other conifers under differing temperature regimes and warm spell treatments. Submitted.

Nielsen, CCN &. Rasmussen, HN 2007. Warm temperature spells affect dormancy and cold hardening in Abies procera and A. nordmanniana. Proc. 8th Christmas Tree Research and Extension Conference, Bogense, Denmark


Recent Christmas tree publications


Sørensen, S. & Rasmussen, HN 2007. The four-plus-four method to crown shape management in A. nordmanniana in Denmark. Proc. 8th Christmas Tree Research and Extension Conference, Bogense, Denmark


Veierskov, B, Rasmussen, HN & Eriksen, B. MS. Ontogeny in terminal buds of Abies nordmanniana characterized by ubiquitin. Submitted.

Pacific NW extension publications

• An Update on Leader Control using Sucker Stopper. Christmas Tree Lookout 40(3):11-14: Contact: Chal Landgren: Chal.Landgren@oregonstate.edu

• Searching for Solutions to Current Season Needle Necrosis. Christmas Tree Lookout 40(3): 17-22: Contact: Gary Chastagner: chastag@wsu.edu

• Winter is the New Season for Needle Sampling. Christmas Tree Lookout 40(3): 23-26. 35: Contact: John Hart: john.hart@oregonstate.edu

• Christmas Tree Management Calender Part II. Christmas Tree Lookout 40(3): 35: Contact: Mike Bondi: michael.bondi@oregonstate.edu

• Christmas Tree Websites. Christmas Tree Lookout 40(3): 36: Contact: Chal Landgren: Chal.Landgren@oregonstate.edu

• Effect of Two Fire Retardants. Christmas Tree Lookout 40(2): 15-16: Contact: Gary Chastagner: chastag@wsu.edu

• Christmas Tree management Calendar, Part I Christmas Tree Lookout 40(2): 23: Mike Bondi: michael.bondi@oregonstate.edu

Now Available Online

The proceedings are available at Forest and Landscape Denmark website as a free download (pdf). The link is:
http://www.sl.life.ku.dk/Publikationer/Udgivelser/AndreVidenskabelige.aspx?katid={C6BFAD94-B8EE-49D4-9419-85C702419AFC}&serieid={8C3B1EBD-3CA0-4E75-956C-0FB4309DC268}
Announcements

**Christmas Tree Extension Specialist Position Opens in Oregon**

Oregon State University Extension Service has announced the opening of a Christmas Tree Extension Specialist position. This is a full-time (1.0 FTE), tenure-track position and is available at the Assistant, Associate or Full Professor rank. The Christmas Tree Extension Specialist will be responsible for providing the overall leadership for the education, outreach and research programs of OSU to this major industry in the state. Oregon is the leading producer of Christmas trees in the U.S.

This position will be expected to address the wide range of education and research needs of new and established Christmas tree growers. Each candidate should have an area of specialization. Examples could include: marketing, environmental impacts, production, labor, genetics or pest management. 65% of this position will be devoted to Extension programming and 20% to applied research. The remaining functions will be supervision and service.

Minimum qualification is a M.S. degree in Forestry, Horticulture or an Agricultural Science field related to Christmas tree production and/or marketing. The position will be housed at the North Willamette Research and Extension Center near Aurora, 30 miles south of Portland. To review the position description, qualifications and to apply, go to [http://oregonstate.edu/jobs](http://oregonstate.edu/jobs), search for posting # 0002086. The closing date is March 4, 2008. For more information, contact Mike Bondi, 503-655-8631. Email: michael.bondi@oregonstate.edu.

**Graduate Assistantship Position Available at Michigan State**

The Department of Forestry at Michigan State University is offering a full-time Graduate Research Assistantship (complemented by a full tuition waiver) for a qualified person to undertake research leading to a M.S. degree in the area sustainable irrigation in tree production systems. The model system for the study will be Christmas tree plantations. The student will use plant stress and soil based approaches to quantify crop water needs and develop optimal irrigation schedules for tree production.

The successful candidate will have a BS degree in Forestry, Horticulture, Agricultural Engineering, Crop Science or related field with strong experimental and analytical skills and good command of the English language.

Interested persons who desire to work in a highly motivating and stimulating academic environment should send a formal letter of interest along with an updated CV to Dr. Pascal Nzokou (nzokoupa@msu.edu).

**New Research Assistant Hired at North Carolina State**

Keith Reinhardt has recently been hired as a Research Assistant in the North Carolina State University Christmas Tree Genetics Program. Keith will be headquartered in Avery County in the heart of the state’s Christmas tree industry and will facilitate field research that in the past has been logistically difficult to adequately implement from main campus in Raleigh. Keith will start in this new position in early March in time to help with upcoming planting, grafting, and breeding activities. Keith is currently working on his doctorate at Wake Forest University. He has completed his coursework and while on the job, will finish his dissertation research which includes an investigation of the effect of cloud immersion on microclimate and ecophysiology of Fraser fir.
“Collaborative Tools” Launched for Christmas Tree Research and Extension Group

Lynn Wunderlich, UC Cooperative Extension Farm Advisor  lwunderlich@ucdavis.edu

What is Collaborative Tools? Collaborative Tools is a web-based, secure communications system which allows members to stay connected, share files (including pictures and files otherwise too large or cumbersome to email), and stay apprised of project updates via a file manager. Those of you who attended the last Christmas Tree Research and Extension meeting in Bogense may have heard my “pitch” for launching this system for our group as a means for us to stay connected and share insight and information. Acting as the group administrator via UC, (and hopefully with your interest), I am launching a Collaborative Tools for Christmas Tree Research and Extension.

How do I sign up? Researchers and extension agents who attended the Bogense meeting should have received or will receive soon an email invitation from me to join the group. The email invitation will include a link to the collaborative tools site and get you into the Christmas Tree Research group. Once there, you should click on the “Your Info” button and edit your profile, including setting up a password that will allow you back into the site through the collaborative tools sign-in page at https://collaborate.ucanr.org which is where you go to start a discussion. If you know of a researcher or extension agent who works in Christmas trees and would like to be included, they can email me for permission to join. The site is not available to the public and please keep in mind this is meant to be a tool for researchers and extension agents, therefore, growers and nurserymen are not included in the group at this time.

Starting a subject discussion. The heart of Collaborative Tools is arguably the Subject Discussions. Within a subject, you can keep in touch with group members involved with a specific issue or topic, share files and log a history of every group member’s input on the subject. The discussion history is even searchable, so there is no need to print out the information. If you find you need it later, you just go back to the page and search by subject.

Any member can start a new subject for discussion. To start a new subject click on the "Create a New Subject" link on the main message page of the group. You will be transferred to the Start a New Subject page, which contains a form with the following fields:

- **Subject**: The subject name will be displayed at the top of the subject page and in the main message list.
- **Message**: The message text field, which features a simple text editor, gives you the opportunity to describe the subject in greater detail and provide focus for the discussion. The message will only be displayed in the subject page.

   **O Upload Files**: If you have any files that are relevant to the discussion subject you are creating, you can add them here. JPG, PNG and GIF files will be displayed in the message body, and all other files will be shown as links.

   **O Save Subject**: Clicking this button will create the subject and set up the subject discussion page. It will also email all group members, alerting them that you have created a new discussion subject. Group members will be automatically subscribed to this subject, but they have the option to unsubscribe to it from the subject's page (see below).

Adding to the discussion. In order to add to the discussion in the Collaborative Tools repository, members should use the emailed link to go to the site to add to the discussion rather than responding via email directly to the sender. You can click on "Add to Discussion" in the options menu bar while on a subject page in your group. You will then be transferred to a new page where you can post your contribution to the discussion. After adding your subtitle and text and uploading any files, be sure to click on the “Add to Discussion Button”. Clicking this button will place your discussion post on the subject page. It will also email all subscribers of the subject, alerting them that you have contributed to the discussion. At the bottom of this page, you will also be able to view all of the previous discussion posts to the subject, making it easier to reference a contribution made in a different post.

**How do I unsubscribe to a subject?** There is a lot of flexibility within Collaborative Tools. By default, once you are a member of a group, you will be automatically subscribed to all new discussion subjects. So, everyone within the group will receive the subject discussion notification email. But, you can elect to unsubscribe from the subject at any time by clicking the "Unsubscribe" link in the option menu of the subject page. If you change your mind and want to participate in particular subject discussions, you can also subscribe to a subject after unsubscribing by clicking the "Subscribe" link in the option menu.

**How do I unsubscribe entirely?** You can also turn off all group email notices or unsubscribe from the entire group on the Edit Profile page. If you want to stop email notices or unsubscribe from the entire group, you must click "Your Info" on the top navigation bar while you are in that group.

Help! More information about how to use Collaborative Tools, edit your profile or how to unsubscribe can be found at the Collaborative Tools Help Page at: https://collaborate.ucanr.org/helpmenu.cfm. Or you can contact me as system administrator at lwunderlich@ucdavis.edu.
Herbicides were evaluated in 2007 in a Christmas tree plantation of fraser fir \textit{(Abies fraseri \textit{(Pursh) Poir.})} on a silt loam soil in Somers, CT. Some treatments followed an IR-4 protocol and others were added to verify findings from earlier experiments. Plots consisted of five or six trees (2- to 3-ft height) spaced 6 ft apart. Sprays were applied over the top using a hand-held boom with 8003VS TeeJet nozzles calibrated to deliver 30 gal/A. Treatments were replicated four times in randomized complete blocks. The predominant weeds were large crabgrass \textit{(Digitaria sanguinalis \textit{(L.) Scop.)}} and common ragweed \textit{(Ambrosia artemisiifolia \textit{L.)}}. Horseweed \textit{(Conyza canadensis \textit{(L.) Cronq.)}}, in the rosette stage in May, was also prevalent in some plots.

Dimethenamid-P \textit{[BAS 656h (63.9\% EC)]} was applied at 0.97, 1.94 and 3.9 lb ai/A on May 7, before emergence of crabgrass and ragweed, when fir buds were swollen but unopened. These treatments were reapplied over the same plots 10 weeks later on July 18, when fir shoot growth was still expanding. Crabgrass was controlled in June at all application rates, but ragweed was controlled only at the highest rate. The firs were moderately injured in May only by the highest rate, but they recovered by late June. No injury was observed following the second applications. Dimethenamid-P plus pendimethalin 3.8CS was also applied on May 7 and on July 18 at 0.9 + 1.5 lb ai/A, 1.8 + 3 lb ai/A and 2.7+ 4.5 lb ai/A. Ragweed control in June was poor to fair, but crabgrass control was excellent at all rates. No firs were injured by any of these treatments. Mesotrione 4SC was applied on May 7 at 0.187, 0.25 and 0.375 lb ai/A. These treatments were repeated 4 weeks later (June 7), when the firs were rapidly growing. Before the June applications, control of ragweed was good at 0.187 and 0.25 lb A and excellent at 0.375 lb/A. Crabgrass control was excellent at all rates. The second set of treatments enhanced control of both weeds. No fir injury was observed in any mesotrione-treated plots. Imazasulfuron 75WG was applied to separate plots on May 10, June 7 and June 28. The May application provided excellent preemergence control of both ragweed and crabgrass, but the postemergence applications in June were less effective. Only the June 7 application during rapid fir growth caused moderate injury, in the form of persistent needle chlorosis.

Prior work showed that low-rate combinations of glyphosate, oxyfluorfen and clopyralid in early to mid June effectively controlled seedling weeds in conifer plantings. We compared a “standard” combination of glyphosate at 0.125 lb ai/A + oxyfluorfen 4F at 0.25 lb ai/A + clopyralid at 0.09 lb ai/A (4 + 8 + 4 oz product/A) with the same herbicides combined at either double these rates, or at higher rates of glyphosate only (0.25 or 0.375 lb ai/A). Five weeks after treatment, the “standard” treatment gave excellent control of ragweed and horseweed, but only fair control of mature crabgrass. Increasing the rate of glyphosate to 0.375 lb/A improved crabgrass control but also slightly injured the firs when sprayed over the top. Semi-directed sprays, where only basal foliage of trees is treated, could reduce injury from this herbicide combination.

This article was published in the Proceedings of the Northeastern Weed Science Society, Volume 62, page 81, 2008. For more information contact John Ahrens. Email: John.Ahrens@po.state.ct.us
Outreach Focuses on Real Tree for California Market

By Michael C. Bondi

Oregon State University, Clackamas Co. Extension Office

Between Thanksgiving and mid-December, Oregon State University Extension Agent Mike Bondi spent much of his time traveling back and forth to California working on a Christmas tree marketing outreach project in conjunction with the Pacific Northwest Christmas Tree Association. Bondi works with forest owners and Christmas tree growers in the Portland area.

The purpose of the marketing outreach project was to bring a message to the public about the environmental values of the real Christmas tree. The effort targeted seven television stations in four major market areas in California to help increase the awareness and understanding about the Pacific Northwest tree product and to share proper handling and care information to ensure a positive experience with the real tree. Oregon is the largest producer of Christmas trees in the U.S. 90% of all real trees sold in California come from Oregon.

The four cities targeted during this year’s outreach effort were San Diego, Fresno, Sacramento and San Francisco. Six of seven television stations in these cities provided air time for five-minute and longer live broadcast segments. At all but one station, two fresh cut trees were included on the studio sets as props. One station in Sacramento taped a 30-minute interview and discussion session about the real tree for airing at a later time during its Saturday programming.

According to Bondi, “The public’s interest in environmental issues is growing. The real Christmas tree certainly has some distinct benefits ranging from the renewable, recyclable angle to oxygen production, aesthetics—not to mention local jobs, economy, tradition and… the smell!”

Nuffer, Smith and Tucker, a public relations firm in San Diego, coordinated the outreach campaign in conjunction with northwest Christmas tree growers. Besides the television media outreach, the campaign included print and on-line messages.

For more information contact Michael Bondi. Email: michael.bondi@oregonstate.edu

Links to Christmas Tree Research and Extension Sites

- North Carolina State University: http://www.ces.ncsu.edu/fletcher/programs/xmas/
- NCSU Genetics: http://www4.ncsu.edu/unity/users/f/frampton/
- Michigan State University: http://www.for.msu.edu/Christmasaoe/
- Penn State University: http://ctrees.cas.psu.edu/Default.html
- Ohio State University: http://www.ces.ncsu.edu/nreos/forest/christmastreepubs.htm
- Oregon State University: http://extension.oregonstate.edu/clackamas/
- Washington State University: http://smallfarms.wsu.edu/crops_christmas_trees.php
- University of California: http://ceelondon.ucdavis.edu
Keeping in touch, who is doing what

Mutant Abies trees
By Dr. Hanne Rasmussen

Enclosed are two photos to illustrate some mutant Abies trees found in Christmas tree plantation in Denmark:
One is a tree that did not produce branches at all, i.e. may have lost the ability either to branch or to produce plagiotropic shoots (Photo 1).
The other is a tree that formed branches in the axil of each needle on the stem (Photo 2).
Several more architectural abnormalities are imaginable, and I would be happy to know more and extend the knowledge of these two.
If you see anything of that nature, I would be grateful if you could send me a picture, along with species name and location where you found it.
For more information contact:
Hanne N. Rasmussen [HNR@life.ku.dk]

An IPM Pocket Guide for Weed Identification in Christmas Trees
Steven Gower, Michigan State University Diagnostic Services

Christmas tree growers face a myriad of pest and plant health problems that are best managed within the context of a comprehensive integrated pest management (IPM) program. Scouting for plant pests is the foundation of an IPM program. Therefore, weed identification is a critical first step to creating an integrated weed management program.

A new pocket-sized IPM scouting guide with plastic-coated pages was designed to be used in the field to assist growers in identifying common and troublesome weeds in Christmas tree plantations. This guide contains color pictures and descriptions of more than 90 weeds and is relevant for scouting in Michigan as well as in other Christmas tree-growing states in the Midwest and Northeast U.S.

Specific pesticides are not listed in this guide. This guide, however, will assist growers with proper weed identification so that appropriate IPM practices such as prevention, sanitation, judicious herbicide use and selection, and site-specific management can be effective.
Contact: Steve Gower [sgower@msu.edu]

On the Web

Please visit our Christmas Tree Working Unit’s web site under the main IUFRO web site, www.iufro.org. To find it, browse to Divisions => Division 2 => Unit 2.02.09 – Christmas Trees. We would like your input into how to best utilize this site. Also, we are seeking more items to include in the ‘Links to other information resources’ section. Please send any input or links to our unit coordinator, John Frampton (john_frampton@ncsu.edu).