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Letter from the Coordinator

Hello and welcome to our once a year IUFRO Christmas tree Newsletter. Many thanks to Bert Cregg from Michigan State University for getting the newsletter and the mailing list together.

Looking forward to 2011, the “Big News” is the 10th International Christmas Tree Research and Extension Conference in Austria. The Christmas tree tradition continues over the past 500 years and we are now planning our 10th meeting. How time flies.

Karl Schuster, has been working on a fantastic meeting in Austria. That is his punishment for not attending last year. Just kidding. The first announcement and early details are included in this issue.

One of the hopes derived from these meeting is developing collaborative projects across regions. The joint germplasm/seed collection project described by John Frampton in this issue is an example. At our CTRE/IUFRO business meeting, we discussed other areas of collaboration.

Areas discussed are listed below with the group leader/convener noted. If you are interested in one of these contact the individual listed-

Marketing Real Trees and limiting artificial trees (Claus Christensen, Denmark, cjc@christmastree.dk)

Climate change impacts on Christmas Tree production (Iben M. Thomsen, Denmark, cjc@christmastree.dk)

Coordinated species collection (Rick Bates, Pennsylvania State Univ., rmb30@psu.edu)

Species hybridization (Bert Cregg, Michigan State University, cregg@msu.edu)

Hope to see you in Austria!



2.02.09 – Christmas trees

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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.

Announcing the 10th CTRE Conference

IUFRO Unit 2.02.09 - Christmas Trees

Mark your calendars and save the date. The Christmas Tree Producers Association of Austria is pleased to host the 10th International Christmas Tree Research and Extension Conference

When and Where: August 21-25, 2011, Steinberger Seminarhotel in Eichgraben, Austria, only 30 minutes away from the center of Vienna.

Program outline: The conference program will comprise contributed and invited talks, posters, extension roundtable discussion, and field trips to Christmas tree research locations and local production sites.

Tentative schedule:

- Sunday August 21. Arrive in Eichgraben and evening social.
- Monday-Wednesday, August 22-24. Oral and poster presentations at Steinberger Seminarhotel in morning, field tours in the afternoons.
- Thursday, August 25. Field tour and sight-seeing in Vienna.
- Friday, August 26. Visit monastery at Melk; Local Christmas tree fair; Conference Banquet

Topics: Conference topics include (but are not limited to): Planting stock propagation & production, plantation establishment and cultivation, fertilization and nutrition, genetics, pest management (disease, insects, weeds), economics and management issues, post-harvest quality, certification, import/export issues.

Anticipated cost (includes lodging & meals during conference): US\$ 900 (double) US\$1,000 (single)

Pre/Post conference activities

Pre-conference and Post-conference activities will be *ad hoc*. We will set up a CTRE FaceBook page in advance of the conference. The FaceBook page will provide a venue for the Austrian hosts to provide links are resource soft local tour information and for early arriving/late staying attendees to coordinate traveling as a group if desired.

Spouse/Family tours

A list of local tours and attractions will be provided for spouse and family activities during the conference

More information:

Conference website (in mid February): www.christbaumtag.at/iufro2011

Local coordinator:

Karl Schuster, Lower Austria, weihnachtsbaum@lk-noe.at

Additional contacts:

Chal Landgren, chal.landgren@oregonstate.edu

Bert Cregg, cregg@msu.edu

Our 2009 Meeting in the Pacific Northwest- the 9th CTRE

Chal Landgren and Gary Chastagner

Our September 13-18, 2009 Christmas Tree Research and Extension Conference is now a memory; and hopefully a good one for those attending. The proceedings are now on the IURFO 2.02.09 web site.

We had 42 attendees from 5 countries. When we started planning we wondered if any more than 12 people would attend given the sad state of the economy in general and university travel restrictions in particular. As usual, things worked out in spite of the dire predictions.

Everyone attending will have personal highlights. The most common that we have heard is the beautiful day spent on Mt. St. Helens looking at bough production. Boughs are interesting, but not quite as spectacular as having one of those rare clear days where you can see 5 snowcapped volcanoes and 200 miles in all directions. Sometimes it is better to be lucky, than well planned.

Then there are the meals. We had a scrumptious dinner hosted by Mark and Karen Savage at their tree farm featuring locally caught, cooked and grown fish, veggies, beer and more fish. The Heater's hosted the group with a local lunch and a fantastic tour of innovative (and large) equipment and tree production.

The venues, the talks and posters were all very informative. Hopefully everyone appreciated the mix of information and dining locations interspersed with a few hikes to work off calories.

Special thanks are in order to the planning groups/drivers from Oregon and Washington State Universities including John Hart, Rick Fletcher, Mike Bondi, Gil Dermott, Brad Withrow-Robinson, Kathy Riley, Annie DeBauw and Don Sherry.



Links to Christmas Tree Research and Extension Sites

North Carolina State University	http://www.ces.ncsu.edu/fletcher/programs/xmas/
NCSU Genetics	http://cnr.ncsu.edu/fer/research/christmastreegenetics/ctg_index.html
Michigan State University	http://www.for.msu.edu/Christmasaoe/
Penn State University	http://ento.psu.edu/extension/christmas-trees
Ohio State University	http://ohioline.osu.edu/b670/
Oregon State University	http://extension.oregonstate.edu/clackamas/xmastrees http://oregonstate.edu/dept/NWREC/resfac.php
Washington State University	http://smallfarms.wsu.edu/crops/christmastrees/index.html
University of California	http://ceeldorado.ucdavis.edu/Christmas_Trees/
University of Copenhagen	http://en.sl.life.ku.dk/forskning/juletraerogpyntegroent.aspx

The Collaborative Fir Germplasm Evaluation Project

John Frampton, North Carolina State University.

The Collaborative Fir Germplasm Evaluation (CoFirGE) Project was organized during Summer 2010 to fund and implement the collection and evaluation of fir germplasm for use in the Christmas tree industry. This collaboration includes members from universities and grower associations in four regions of the United States (Connecticut, Michigan, North Carolina and the Pacific Northwest) and Denmark. The initial focus of the CoFirGE Project is to obtain seeds of Turkish (*Abies bornmuelleriana*) and Trojan (*A. equi-trojani*) fir for evaluation as Christmas trees in a coordinated series of field trials.

During early October 2010, Gary Chastagner, Fikret Isik, Chal Landgren and I, travelled to Turkey for the cone collection. Mr. Muzaffer Topak, who manages a commercial seed collection company in Turkey, was our guide and handled most of the logistics including obtaining permission from the Turkish Ministry of Environment and Forestry, contracting climbers, reserving lodging, and providing transportation. We collected about 60 cones from each of 100 trees representing a range of elevations within each of three provenances of Turkish fir (Akyazi, Bolu Karabük) and two provenances of Trojan fir (Çan and Kazdağı).

Currently, the cones we collected are in Ankara being processed and we expect to receive them in the U.S. during the first half of December. Seedlings from each open-pollinated family and control seedlots of other fir species (Fraser, noble and Nordmann) will be grown to establish a field trial series. Two test sites containing seedlings from each seedlot will be established in each of the five collaborating regions. The trials will be cultured according to regional Christmas tree practices. Throughout the rotation, survival, growth and quality traits will be assessed using common protocol. Eight years after planting, each region will be permitted to rogue their tests for seed production and/or to collect scion material to establish a grafted clonal seed orchard. Additional seeds will be available from most seedlots and it is anticipated that other collaborative studies involving this material will develop including evaluating frost hardiness (date of budbreak), Phytophthora root rot resistance, and post-harvest needle retention.



Chal Landgren, Fikret Isik, John Frampton and Gary Chastagner (l to r) at the Trojan fir Natural Conservation Area in Kazdağı.

New Project at BioForsk

Venche Talgø

Bioforsk is currently involved in several Christmas tree projects. The last decade, Norwegian Christmas tree growers have greatly increased production, especially of Nordmann fir (*A. nordmanniana*) and subalpine fir (*A. lasiocarpa*). Both the domestic market share and export has increased rapidly from 2006. When entering a strongly competitive domestic and export market, high quality, disease free trees are a prerequisite.

This spring a new project (An integrated approach to major disease and weed problems in an expanding Norwegian Christmas tree industry) was funded by the Research Council of Norway in cooperation with The Forest Owners Research Foundation, Norsk Juletreservice AS, and Industry support from Washington State University.

The main focus in our new project is the serious disease current season needle necrosis (CSNN). CSNN is a major problem on Nordmann fir all over Europe and in USA. For more than 25 years, CSNN was believed to be caused by abiotic factors (Ca deficiency and/or specific climatic conditions). In collaboration with research institutes in Austria, Denmark, Germany and USA, we revealed that *Hormonema dematioides*, the imperfect stage of *Sydowia polyspora*, caused CSNN on Nordmann fir (Talgø *et al.* 2010), but further research related to biology, epidemiology and management is clearly needed. Furthermore, *Phytophthora* root rot, and interior needle blight will be addressed. Weeds may influence tree health by restricting air movement, hosting damaging agents like the rust fungus *Pucciniastrum epilobii*, and competing with the trees for water and nutrients. Thus, part of the project will focus on weed control. Due to high precipitation and steep land in the main areas for Christmas tree production, a satisfactory ground cover is often necessary to avoid erosion and soil infested trees during harvest. Vegetation suppression to establish a non-competitive ground cover is therefore one sub-goal in our project. The research on diseases, especially CSNN, will be performed by Venche Talgø and colleagues at Bioforsk together with Gary A. Chastagner at WSU Puyallup. Inger S. Fløistad will design and perform experiments on weed control in close cooperation with Doug Hundley at North Carolina State University Cooperative Extension. Inger, together with Terjer Hidle (The Norwegian Christmas Tree Extension Service - Norsk Pyntegrønt), were in North Carolina this summer to gain experience with the weed suppression work they have performed there.

Talgø, V., Chastagner, G.A., Thomsen, I.M., Cech, T., Riley, K., Lange, K., Klemsdal, S.S. & Stensvand A. 2010. *Sydowia polyspora* associated with current season needle necrosis (CSNN) on true fir (*Abies* spp.). *Fungal Biology* 114: 545-554.



Nordmann fir (*A. nordmanniana*): Current season needle necrosis (CSNN) (left), and the rust fungus *Pucciniastrum epilobii* (middle) and its alternating host *Epilobium* sp. (right). In both cases the result is necrotic needles and often heavy needle cast. No management strategies are known for CSNN, but the rust fungus can be controlled by removing the *Epilobium*-weed from the Christmas tree fields.

Evaluating Nordmann fir (*Abies nordmanniana*) For Pennsylvania Conditions

Ricky M. Bates, Pennsylvania State University, rmb30@psu.edu

Pennsylvania Christmas tree growers rely heavily upon relatively few species, with Fraser fir (*Abies fraseri*) and Douglas-fir (*Pseudotsuga menziesii* var. *glauca*) comprising more than 70% of production acreage. Production costs for these species will continue to rise as pest problems intensify. Over 95% of the Douglas-fir grown in the state is derived from seed originating in southeast New Mexico's Lincoln National Forest. Lincoln Douglas-fir is very susceptible to Rhabdocline needlecast and Swiss needlecast (Chastagner, 2001) and each year growers apply 3 or 4 fungicide sprays to control these diseases (Bates, 2005). In addition, the prevalence of Phytophthora root rot represents a major constraint to the production of Fraser fir in the eastern United States (Benson, et. al., 2006). The need exists to improve the pest tolerance of these commonly used species, but there is also mounting pressure to evaluate and introduce new, potentially profitable species. Consumers of cut Christmas trees are also keen to try something new. In recent years there has been considerable interest in growing exotic *Abies* species among both Christmas tree growers and the landscape industry (Kelley and Bates, 2007).

No one knows when, or if, a new *Abies* species will approach the prominence of Fraser fir or Douglas-fir in the eastern U.S. Christmas tree market. However, Nordmann fir (*A. nordmanniana*) has received more attention than other exotic *Abies* species and is being widely planted across the northeast region of the U.S. While Nordmann fir holds promise due to its excellent Christmas tree characteristics and wide adaptability, testing in the eastern United States has been somewhat limited, and provenance evaluation in particular has been lacking. Knowledge of how Nordmann fir varies across differing environments in its native range can provide the basis for the selection of seed sources which are better adapted to conditions in Pennsylvania and the Mid-Atlantic States. Indeed, widespread planting of seedlings derived from untested sources is a particularly risky endeavor. Initially, most Nordmann fir grown in the eastern U.S. came from the Ambrolauri forests of the Republic of Georgia. In our experience, trees from this seed source tend to be somewhat slow to establish and exhibit slow early-cycle growth rates. Additionally, Ambrolauri Nordmann grown on certain sites in Pennsylvania have exhibited extensive foliage bronzing, which may be an indicator of marginal hardiness. The May 2009 frost event in the eastern U.S. also revealed the susceptibility of Nordmann fir to late Spring frost damage. These experiences have caused some growers to discount Nordmann fir as a promising addition to their product mix. However, many of these early setbacks could be related to the use of seed sources which are not optimally matched to our local growing environment. This scenario has led to renewed interest in evaluating other Nordmann fir seed sources for Pennsylvania and the northeast U.S.

In 2006 we began collecting Nordmann fir stock derived from a wide range of forests in both the Greater and Minor Caucasus regions of the Republic of Georgia and the north slopes of the Greater Caucasus in Russia. Numerous evaluation sites have been established with cooperating growers in Pennsylvania. Recently, a joint project was established with Ilia Chavchavadze State University and the Tbilisi-based seed company Goni, Ltd. to collect and evaluate new seed sources which may hold potential for the northeast U.S. Plans are also underway to establish a tree evaluation site within the Republic of Georgia.

(For more information on this partnership with Georgia colleagues visit: <http://www.acdivocacoopex.org/acdivoca/PortalHub.nsf/ID/GeorgiaFtFChristmasree>).

Literature

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- Acknowledgements:* Special gratitude is extended to the Pennsylvania Christmas Tree Growers Association and the Pennsylvania Department of Agriculture for their generous support of this project.

Michigan State University Christmas Tree Extension Launches YouTube Channel

Pascal Nzokou¹, Jill O'Donnell², and Bert Cregg³

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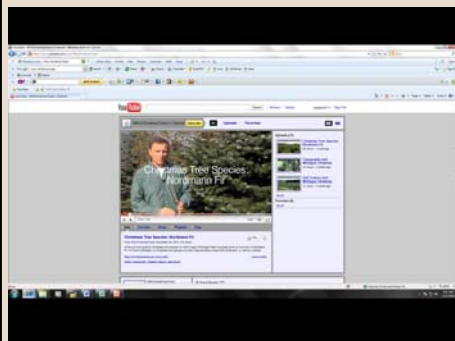
³ Associate Professor, Michigan State University Department of Horticulture and Department of Forestry, East Lansing, Michigan USA

Delivering science-based extension information is an ever-evolving process. 'Tried and true' delivery methods such as bulletins, workshops, and factsheets will continue to be an important means to communicate research advances and recommendations to growers. Like most segments of society, however, Christmas tree growers are increasingly turning to the internet and social media as primary sources for current information. In order to capitalize on this trend, the Michigan State University Christmas Tree Extension team has launched the MSU Christmas Tree Channel on YouTube. The Christmas Tree Channel currently features over 30 short videos by MSU Christmas tree extension specialists and educators that touch on virtually every aspect of Christmas tree production. Filmed by producer Shawn O'Donnell, topics covered in the high-quality videos include:

- Irrigation management - Pascal Nzokou
- Insect pests and management - Deb McCullough and Jill O'Donnell
- Christmas tree diseases and management - Dennis Fulbright
- Species Selection - Bert Cregg
- Nutrition management - David Rothstein
- Site selection – Mel Koelling

The MSU Christmas Tree Channel is available at www.youtube.com/user/MSUChristmasTrees

We encourage other extension personnel to link to the videos and use them as appropriate for their programming. For more details contact: Pascal Nzokou nzokoupa@msu.edu



The MSU Christmas Tree Channel on YouTube provides over 30 one and one-half to four minute videos on all aspects of Christmas tree production



Christmas tree production, especially choose and cut, continues to be a viable and healthy farm business in the United States. In the southeastern portion of the nation, growers have good markets and a wide variety of species that can produce excellent Christmas trees in only a few years. Although these states have active grower associations, opportunities to share information among states as well as research and extension support are limited in most states. The collective need across the region is significant. In this first Southern Christmas Tree Conference, growers, extension personnel, and scientists from across the region will meet to learn the successes of fellow growers and to hear the latest science-based recommendations on successful production. The goals of the conference are to:

1. Develop an understanding of the nature and needs of the Christmas tree industry in the Southeastern states,
 2. Provide Southern growers with information about current production techniques and strategies and marketing issues,
 3. Improve grower skills with optional hands-on workshops, and
- Develop a network of research and extension support.

WHO SHOULD ATTEND

The conference is designed for Christmas tree growers and industry support professionals alike. All of the following should consider attending:

- New growers anxious to develop successful production and marketing skills
- Established growers interested in learning the latest science and in getting new ideas from fellow growers
- Landowners considering growing Christmas trees

Extension personnel, agency staff, and scientists who would like to meet and learn from others who are supporting this industry as well as share their own knowledge

For more information visit:

<http://www.ces.ncsu.edu/nreos/forest/feop/Christmas-tree/>

Christmas Tree Management Short Course Scheduled

Dr. Ricky M. Bates, Associate Professor of Horticulture,
Department of Horticulture, Penn State

Penn State's 2011 Christmas Tree Management Short Course will be held at the Ramada Inn and Conference Center in State College, PA, Wednesday February 16 and Thursday February 17. Sponsored by the College of Agricultural Sciences and the Department of Horticulture, the course attracts Christmas tree growers from over 12 states and Canada.

The course is designed to help growers adopt the latest pest control, production and business management practices. Core and Category pesticide re-certification credits from the Pennsylvania Department of Agriculture will be available to those attending the meeting. This year's program represents a broad range of topics and highlights Christmas tree cultural management, pest control, and farm business management.

A sampling of this year's speakers and topics include:

Larry Kuhns (Penn State Univ.) – Everything you need to know about B & B

Paul Shealer (Penn State Univ.) – Back-to-Basics workshop

Tracey Olson, Cathy Thomas, Sarah Pickle, Sandy Gardosik, Rayanne Lehman (PA Dept. of Agric.) – Hands-on pest management sessions

Rick Bates (Penn State Univ.) – Grower-based tree improvement

Bill Riden (Penn State Univ.) – Improving pesticide handling practices

Tracey Harpster (Penn State Univ.) – Pesticide safety

Rick Stehouwer & Andy Beck (Penn State) – Christmas tree soils

Dwight Lingenfelter – Spray nozzle technology

Mike Jacobsen (Penn State Univ.) – Christmas tree farm taxes

Grower panel – Labor issues

Plus, additional great speakers addressing timely and cutting-edge topics.

A registration fee of \$185 includes all educational sessions, instructional materials, breaks and lunches for Feb 16 and 17. Registration for one day is \$105. A complete agenda and registration forms will be mailed shortly after Christmas. Registration deadline is Friday, Feb. 11, 2011. If you do not receive a registration form or need additional information, please call the Christmas Tree Management Short Course office at (814) 863-7713 or e-mail Rick Bates at rmb30@psu.edu. A block of rooms have been reserved at The Ramada Inn and Conference Center at a special rate of \$62. Reserve a room at a by calling (814) 238-3001, and indicate you are attending the Christmas Tree Short Course, or visit the Ramada's website at: www.ramadasc.com. Room reservations should be made by January 14, 2011 to receive the reduced rate.

Keeping in touch, who is doing what

Lynn Wundelrich
University of California Cooperative Extension

Collaborative tools (CT) is a web-based, secure system that allows members to stay connected, share files (including pictures and files otherwise too large or cumbersome to email), and stay apprised of project updates. It can be used to store notes and documents for short or long term projects. I gave a pitch for this networking system for our group in Bogense in 2007. We launched in 2008 with 35 members (those who attended the meeting in Bogense were added and asked to go in and edit their profile) and myself as acting administrator.

But we haven't had much action on the site-I posted pictures of citrus thrips damage in Doug fir, and John Framp-ton posted an article on factors influencing coning in Abies, comparing data from NC and MI. (*You can still see these documents on the CT site! The beauty of CT!*) So I'm wondering: should we give CT for our Christmas tree group one more try?

Why bother? CT is a great way to share information, and can be used for our international group to share ideas, files, and help problem solve. It could be used to post information details for our international meetings, newsletter or research articles, etc. CT has been extremely useful for my work as a Farm Advisor within the other CT groups that I belong to. When I have a problem I cannot diagnose, I often send a picture and description to my colleagues on CT and receive useful feedback. And, all information is archived so you don't have to worry about locating that old email with important information in it.

Members do receive an email notification for CT postings, but you must enter the system via the internet link in the email message to access CT. It is different than emailing because all of the discussions are archived online-and so you can go back and search by topic. CT is not a public system, you must be a member to use it. It is a very flexible system: if you do not want to receive the email notifications for a particular discussion, you can unsubscribe to that discussion thread; or opt out of the group entirely.

Getting (re)started: Researchers and extension agents who attended the Bogense meeting will receive a second email invitation from me to join the group. In the email will be a link to the CT site. **You must click on that link!!** Once there, you should click on the "New User" link and follow the instructions to login. This includes the standard "enter your email and we will send you a link" set up, that will allow you back into the site through the collaborative tools sign-in page at <https://ucanr.org/collaborate/> or at <http://ucanr.org/portal/> which is where you go to start a discussion. Anyone is welcome to contact David Krause (djkrause@ucdavis.edu), UC's programmer for the CT system, should they have trouble logging in for the first time.

If you know of a researcher or extension agent who works in Christmas trees and would like to be included, they can email me to join. The site is not available to the public; therefore, growers and nurserymen are not included in the group at this time.



Keeping in touch, who is doing what

Starting a subject discussion. 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:

- o **Subject:** The subject name will be displayed at the top of the subject page and in the main message list.
- o **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 CT 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.

How do I unsubscribe to a subject? 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 CT, edit your profile or how to unsubscribe can be found at the Collaborative Tools Help Page at: http://groups.ucanr.org/tech-tools/Toolbox/Collaborative_Tools.htm

Or you can contact me as system administrator at lrwunderlich@ucdavis.edu or Dave Krause, our programmer, at djkrause@ucdavis.edu.

The CT groups I belong to do not have a lot of subject discussions so I do not feel it has been an email overload; those subjects that have come across have been worthwhile and I have learned a lot from other's discussions. It is a fairly easy system to use if you remember to type your messages within the discussion site and not via email. Why not give this system a try as a possible tool to keep our wide reaching group connected?!

Recent Christmas tree publications

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