

# Home Tissue Culture Group Newsletter

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## **Welcoming Address and History of the HTCG**

Welcome to the first newsletter published by the Home Tissue Culture Group. The group has been unofficially in existence for about 10 years since the founding of the Home Tissue Culture Listserv. Over the years it became evident that we needed a more formal presence to unite our group. Thus the new HTCG was organized to:

- promote and support home (hobby) and classroom plant tissue culture using inexpensive equipment and supplies,
- provide education through national, regional and/or community meetings, workshops, and the sale of hobby kits and supplies,
- share ideas, protocols, recipes and sources of information other via a website and/or virtual newsletters,
- work closely with K-14 teachers and students to help them learn and understand the benefits of home tissue culture
- to seek donations and grant money to support our goals.



The original plan was to call our group the 'Home Tissue Culture Association', an independent non-profit corporation that would seek 501(c)(3) status. However, since the new Kitchen Culture Education Technologies Inc. had just received its exempt status from the IRS and our goals fit within KCET's goal to promote plant science education, our lawyers advised HTCG to accept "subsidiary" status under KCET and thereby enjoy the benefits of the exempt status without further expenses or loss of time.

Carol Stiff, who started the Home Tissue Culture Listserv and Kitchen Culture Kits Inc., was the unifying factor in this process as she is also the founder of KCET and handled the paperwork for the 1023 application and donated funds for legal counsel on the organization of HTCG. Carol

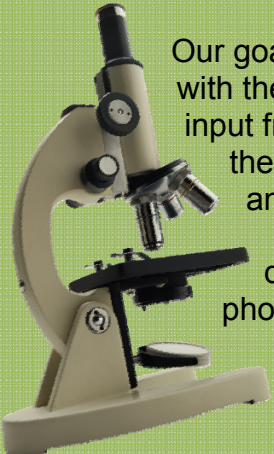
granted the HTCG permission to sell her Kitchen Culture Kits, supplies and use her supplies and teaching materials for the HTCG workshops. In addition, her company (KCK) granted KCET/HTCG free use of computer equipment, office, and lab facilities for a period of time. Carol has served as an unpaid full-time employee of KCET/HTCG since their inception.

**Instructors, grant writers, editors or co-editors of the newsletter and other positions will be needed by KCET/HTCG.** Currently Carol Stiff is our only instructor. Once grant money is received, many workshops will be taught around the country (planet) and those interested in this should contact us. Instructors must be experienced in home tissue culture and should attend a KCET/HTCG workshop.

The board of directors of KCET are: Carol M. Stiff, President/Secretary/Executive Director, Chris Guppenberger, Vice President-General Operations, Frank Tromble, Vice President-HTCG, Denise Garoutte, Treasurer, Charles Stiff, Director at Large, George Timm, Director at Large, Joe Dolan, Director at Large, John Bonnano, Director at Large, Toni Annable, Director at Large. We would also like to see a committee of advisors for HTCG. Contact Frank if interested ([frank@hometissueculture.org](mailto:frank@hometissueculture.org)). Information on who these people are will be in the next newsletter.

What does membership in the HTCG get you? Membership through 2009 is \$30 and gets you a free KCK DVD which describes the basics of Home Tissue Culture. Membership also gives you 10% discount on kits, supplies and workshops. Discounts with various vendors, free samples, extra hormones, new hormone samples (if we have them), a copy of "The Home Tissue Culture Group Manual of Procedures and Protocols" edited by Carol Stiff and written by any home tc person with something to contribute (due out late 2009 or early 2010). A recent addition to the supplies we offer is the renowned book "Plants from Test Tubes" which every hobbyist show own. See our website for details.

## Scope and Plans for the *Newsletter*



Our goal for the newsletter is to have it serve as a source of information with the focus changing for each issue. In addition, we would like to get input from members of HTCG on protocols they have developed, things they find that work or don't work, new sources of supplies, new vendors and web links, regional meetings and workshops and "how you got into this hobby" or better yet, how did you get hooked on to such a different activity?". Please send your news, favorite protocols, photos, favorite vendor information, etc. to

[carol@hometissueculture.org](mailto:carol@hometissueculture.org) We are also planning on an official t-shirt for the group – send us your ideas.



## Announcements

### YouTube Videos by Frank

Frank Tromble, our own YouTube celebrity, has suggested that we change the link on the Home Plant Tissue Culture Group website to just this one: <http://www.youtube.com/user/fbt2007> That way the links will always update to any changes for the videos and might make the website look a little cleaner. [Note from Carol: this will be done as soon as I have time to update the websites]

### Our New Logo

We had a logo contest last year and in December the Board of Directors choose the logo designed by Matthew Comstock ([comystocky@hotmail.com](mailto:comystocky@hotmail.com)). Matthew is not a graphic artist (technically) but a freelance industrial designer. Matthew says "I mainly do product designs; however a job might entail a little bit of graphic design here and there, like for a page layouts or packaging design. I graduated in the spring of 2008 from the University of Kansas with a BFA in Industrial Design, with a concentration in psychology. I currently reside in Overland Park, KS which is a suburb of Kansas City. I have never really had any formal training in horticulture; it's just something that I have really had an interest in ever since I was a little kid, helping my mom in the garden. I guess my interest in plants and biology started picking up a few years ago when I received an orange tree for Christmas in 2007, ironically the same season that KU went on to win the Orange Bowl. Since then, I have slowly been expanding my knowledge of horticulture and collection of plants. That search for further knowledge led me to your website and this competition. Someday I hope to be designing products around growing plants."



Matthew will receive a free Kitchen Culture Kit, a KCK DVD with membership in the Home Tissue Culture Group and a free HTCG t-shirt (when available). Thanks Matthew for a job well done.

Here is the logo he created:





## "How did I get into this?"

Carol Stiff is co-editor of the newsletter, In Vitro Report, for the Society of In Vitro Biology (see [www.sivb.org](http://www.sivb.org) ) and started a column on how people got into the world of tissue culture. We thought we would also do that here as it is fascinating how "little things" can change our lives. Here are a few responses we have received. Please send us more.

### **Aaron Hicks:**

"Shortly after entering the monastery, I realized that plant tissue culture was - by far and away - the best venue for pursuing the mandated vow of poverty."

### **Edwin S. Katz:**

"I have spent most of my adult life in clinical laboratories. I retired from Baylor Coll. of Med in 1992, Atherosclerosis Laboratory, Department of Medicine. Had I known then what I know now about the exciting possibilities of genetic manipulation and micropropagation techniques I would have switched careers. I wish I could hook up with other interested people here in Houston."

### **"Vicki Gustafson:**

"I had a fantastic genetics teacher as an undergrad. He asked me if I wanted to be a grad student and I said "yes". I had absolutely no idea what Plant Tissue Culture even was....That was 24 years ago and I still love playing with plants."

### **Troy Meyers:**

In my case, I ended up with what I thought was a "lost species" of orchid, where the type specimen had died and no one had ever seen another. I felt obligated to propagate it by seed since it seemed to no longer be in cultivation. Because the seed labs I contacted were dubious about the genus *Coryanthes*, I thought I better also try to learn myself. After the long process of learning the techniques (and trials with other orchid seed prior to the subject capsule actually maturing) I realized that I ought to share what I learned, and the equipment I'd accumulated, by opening up as an orchid species conservation flasking service. I sure didn't know that's what would happen when I started."

### **Mike Kane:**

"As part of my Masters and doctoral research I was examining the environmental/physiological control of leaf development in heterophyllous amphibious aquatic vascular plants. I had a major problem culturing plants without algal contamination. In vitro culture allowed me to conduct my research under controlled conditions."

### **Carol Stiff:**

"For me, it was when I was doing some routine tissue culture bioassays as a lab tech (pre-Masters) at Virginia Tech. Roots formed in my callus when they should not and I wanted to know why. I started reading more, joined the TCA in 1977 and got piles of reprints from Dr. Murashige. I became a true convert then and have enjoyed it ever since."

## Plans for new DVD and a HTCG Manual of Protocols

Carol Stiff is working on a new DVD that will show details on isolating different plant parts. Email Carol ([carol@hometissueculture.org](mailto:carol@hometissueculture.org)) and let her know what plants you would like included. Everyone cannot attend a hands-on workshop and the DVD should be very helpful in identifying the correct plant parts to culture.

Plans continue for a comprehensive "Manual of Protocols" written by the members of the HTCG and edited by Carol Stiff and other volunteers. Please email us your protocols and images.



## Workshops/Regional Meetings

### HTCG/KCET conduct first “official” workshops

The Home Tissue Culture Group conducted 5 workshops in seven weeks!

- On February 21, HTCG, in cooperation with Kitchen Culture Kits Inc., offered a benefit workshop to area donors for the new Milton (Wisconsin) dog park. Carol Stiff donated her services as instructor and KCK donated the supplies along with Plant Cell Technology Inc. and Caisson Laboratories.
- On March 21, Carol was invited to co-teach a class at Hosta College with hosta expert Butch Ragland. The following day, a full day HTCG workshop was held at Andy's Gardens in Troy, Ohio.
- From there it was back to Baraboo, Wisconsin where we did a quick 3-hour hands-on class for the Master Garden Symposium on March 28. ]
- Shortly after that, we switched gears and focused on aquatic plant tissue culture. The Greater Washington Aquatic Plant Association (<http://gwapa.org>) invited HTCG to do a workshop on April 4 near Washington, DC. They wanted a focus on aquatic plants so a little research had to be done which included getting some valuable information from the expert, Dr. Michael Kane.
- Three days later Carol headed to Tucson where the Cacti and Succulent Plant Society (<http://www.cssainc.org>) invited us to do a workshop with a cacti/succulent plant focus. Again, more research was needed and I found out how fascinating cacti are.

Our next workshop will be July 1 in Middleton, Wisconsin where Carol has been invited back (for the third time!) to do an all day class for the Wisconsin Association of Agriculture Educators ([www.waae.edu](http://www.waae.edu)). HTCG is planning on developing a new kit that is more “scientific” and includes information on which national teaching standards are accomplished in the different protocols. Any input for our hobbyist/teachers would be much appreciated.

## Thanks for the Support

We are extremely grateful for the donations we receive for these workshops: Plant Cell Technology donates the ever precious PPM; Caisson Laboratories donates the renown MS medium as well as agar packets, and Unicorn Manufacturing has donated some new “plastic baby food jars”.

It is our plan to acquire grant monies that would support/subsidize future workshops and also regional meetings where we could gather and share information. The aquatic plant group and the cacti and succulent group have succeeded in doing this and with time, the HTCG will too.

## Regional group started in British Columbia

Ray Nye has been instrumental in organizing an informal hobby tissue culture group near Vancouver, BC. Ray got six people in the lower Fraser Valley of British Columbia, Canada who are interested in tissue culture and then got Bill Chalmers to help them. Bill's company, **Western Biologicals Ltd**, in Langley, BC, **Tel: 604-856-3339 email: [westernb@shaw.ca](mailto:westernb@shaw.ca)** has the facilities for high tech plant tissue culture. They held their first meeting on 15 February 09 and these will be followed by 6 or 8 more meetings with Bill serving as instructor. The group has varied interests: begonias, geraniums, bananas, aquatic plants, blueberries. Two of the people have small greenhouse operations.

Bill started off by making stock solutions to make the media. Then made a media for African violet and another for miniature roses.. Then each of us prepared and sterilized the African violet and rose stock and place them on the media. We started at one o'clock on Sunday and never finished till 930 in the evening. A good time was had by all.

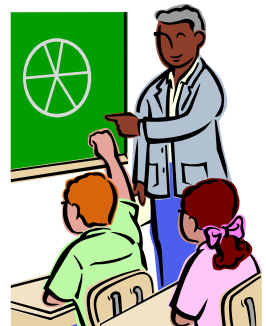
If anyone is interested Bill says he can handle a couple of more.....Ray Nye, Vancouver British Columbia

[Note from Carol: we would like to see regional groups like this form around the planet. Send us your news if you have started a group or are trying to start one.....cms]

## Education News

### Announcing a New Website/Business supporting Plant/Animal Education

Joseph and Katherine Dolan have started a new business that supports plant and animal science education. Their website is: <http://www.dolanbiological.com/> and the business is called Dolan Biological Associates Education Services. The staff at DBA has experience teaching biology and natural science to students at all levels, from **elementary** school to college and beyond. The **activities** conducted by DBA are designed to provide **beginning** students with the experiential foundation for future learning and better comprehension of **complex** topics. Advanced students, including **professional** teachers, benefit from the hands-on approach to learning.



## Favorite Techniques

We were going to include a “Focus Article” on “Overcoming Contamination” but we ran out of time so this will have to do. This was submitted by Carol Stiff and is from the workshop presentations she developed for KCK and KCET/HTCG. If you have been to a recent workshop, this might look familiar.



**...is to pour a thin layer of sterile liquid medium over the layer of solid agar media**

**One method of decreasing contamination problems...**



- Make medium without agar. Add enough PPM to make concentration 5 ml PPM per liter liquid medium.

- Process in pressure cooker or microwave.

- In the hood or cleanbox, aseptically pour liquid layer over solid agar medium.

**Maintain “difficult cultures” on rotary shaker to continuously bathe surface of medium and explant with biocide-containing liquid media**



- Cultures can be swirled daily.

- More difficult cultures can be maintained on a slow shaker.