



Hosta Horizons

newsletter of the
Russ O'Harra Hosta Society
est. 1993 www.rohs.org

April 2012

Favorite Mini Hostas

1. *H'Blue Mouse Ears'*
(E. & J. Deckert – 2000)
2. *H'Mighty Mouse'*
(Walters Gardens, Inc. – 2006)
3. *H'Comeo'*
(H. Hansen, Shady Oaks – 2002)
4. *H'Curly Fries'*
(tie) (R. Solberg – 2008)
H'Popo'
(R. O'Harra, R. Riehl – 1993)
6. *H'Snow Mouse'*
(M. Fransen – NR)
7. *H'Pandora's Box'*
(H. Hansen, Shady Oaks – 1996)
8. *H'Frosted Mouse Ears'*
(tie) (M. Zilis, E. & J. Deckert – 2006)
H'Peanut'
(J. Schwarz – 2002)
10. *H'Cat and Mouse'*
(tie) (H. Hansen, Shady Oaks – 2007)
H'Holy Mouse Ears'
(M. Zilis, E. & J. Deckert – 2006)
H'Tiny Tears'
(R. Savory -1977)



President's Message:

"Gardening Grows the Spirit"

Winter – What Winter?



Even though our weather has been so enjoyable it's time for spring to be here. I fed the birds homemade suet cakes this winter. It was exciting to see a female Yellow-bellied Sapsucker hanging out at the feeders for several weeks. I had never seen one before as they are normally migratory in our area. Watching the birds always reassures me that there really is life out there during bleak winter weather.

*Very soon our beloved hosta plants will show signs of life. Pips will push up through the soil waiting to unfurl into all those hosta shapes, sizes, and colors. Really is there any better sight to see in early spring? Yes, daffodils, crocus, and hellebores will bloom - but **"hosta, sweet hosta"** is what our hearts desire.*

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Hosta Horizons

In This Edition:



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MISSION STATEMENT:

The Russ O'Harra Hosta Society is an educational society open to all those interested in the genus *Hosta*. Its purpose is to promote the growing and enjoyment of hostas including their use in landscape design and the cultivation and development of new cultivars. The goals of the Society shall be in keeping with those of the American Hosta Society.

Club President, Marlys Anderson, has launched the ROHS into the age of social networking with a Facebook page. The possibilities are vast!

Go to [Russ O'Harra Hosta Society on Facebook](#) and click on 'Like'.

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President's Message:

"Gardening Grows the Spirit"

Winter – What Winter?



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Former ROHS member, Greg Johnson, has written an article - "Old Coot Meet 'Blue-Haired Lady'" - that is featured in the 2012 spring issue of *The Hosta Journal*. There are lots of hosta pictures along with glimpses of Greg's fun loving sense of humor. Just as a bit of trivia, the front cover of *The Hosta Handbook* with hostas 'Mark Anthony', 'Topaz', and 'Everlasting Love' was taken in Greg's garden. You all might want to remember that in case we do a trivia game again at one of our meetings.

I'm excited about our ROHS upcoming year with plant geek Lee Coates speaking at our spring meeting April 15th near Orient, IA. Come prepared to laugh. Lee often calls himself Mr. Peggy - the other half of Peggy's Flowers. Thanks again Donna Miller and Lisa Swanson for helping to set up this meeting. Plans are close to being finalized for our summer tour on June 24th. And hosta expert, grower, and hybridizer, Bob Solberg - owner of Green Hill Farm, will speak to us October 14th at the Iowa Arboretum with Robin and Carl Vos hosting. Save the dates!!!

Bob Solberg has again offered special deals for new and newer hostas to hosta clubs. Information about Bob's "Club Plants" will be emailed to ROHS members and will also be at our spring meeting where

Reldon will be taking orders. The information is on Green Hill Farm's website so you can check it out there, too. [Club Hosta List](#)

2013 commemorates the 20th Anniversary of the Russ O'Harra Hosta Society. Our event planning committee is hard at work coming up with fun activities showcasing ROHS. Special thanks to those serving ROHS on this committee - Ellen and Frank Glasgow, Reldon Ramsey, Trudy and Bruce Van Wyk, and Robin and Carl Vos.

Please give special attention to the article "Building a Dream in the Country" in this newsletter. Hopefully ROHS will find a way to help make this dream come true for our Hosta Friends, Sue and Josh Spece. More information will be forthcoming at our spring meeting.

2014 will bring the AHS National Convention to Cedar Rapids, IA. The *Harshbarger Hosta Society* took the plunge and signed on to host the event. ROHS has pledged its support to the Harshbarger group. Let's all be willing to pitch in and help out. How exciting to have the AHS National Convention right in our backyard! If you have never attended a hosta convention before - just do it! Hosta conventions are great fun and you'll make new Hosta Friends.

Hosta is the Friendship Plant

"Gardening Grows the Spirit"



MM
Marvelous Marlys

ROHS Spring Meeting

Henry A. Wallace Country Life Center

2773 290th Street, Orient, IA 50858

Sunday, April 15th – Noon to 5 PM



The Henry A. Wallace Country Life Center is a new destination for the ROHS. It is located in rural Adair County near Orient. The meeting will be hosted by Lisa Swanson and Donna Miller who live in the area. Lisa also works at the Country Life Center and shared this photo of our meeting place - the 'Gathering Barn'.

Please note: GPS directions are incorrect.

Follow these instructions:

From I-80: Take the Stuart exit, go south on P-28 for 12 miles. Go west (right) on Hwy. 92 for 2 miles. Turn south (left) onto Henry A. Wallace Road (P-33) for 5 miles to 290th Street. Go west (right) for 1/4 mile.

From Greenfield: Go east on Hwy. 92 for 5 miles. Turn south (right) onto Henry A. Wallace Road (P-33) for 5 miles to 290th Street. Go west (right) for 1/4 mile.

From Winterset: Go west on Hwy. 92 for 19 miles. Turn south (left) onto Henry A. Wallace Road (P-33) for 5 miles to 290th St. Go west (right) for 1/4 mile.

From Creston: Go north on Henry A. Wallace Road (P-33) for 10 miles to 290th Street. Turn west (left) for 1/4 mile.

Wallace Centers of Iowa

AHS Online Auction Results

The 2012 AHS Online Auction held in January raised a total of \$11,754.81 - a new record. 78 hostas were donated along with hosta seeds and items that ranged from *The Genus Hosta* to a trio of trailing heucherellas to jewelry from New Zealand.

There was something for every degree of hosta addiction - older plants, rarities, streaked breeders, and unusual new sports. None topped the \$500 mark, but two came close. Hybridizer, Rick Goodenough's streaked *H* 'Dover Downs' (\$499) and a new 'Striptease'-like *H* 'Sum and Substance' sport named *H* 'Totally Awe Sum' (\$476) donated by Walters Gardens were the top moneymakers.

Iowa and the ROHS were well-represented in the top five with streaked breeders: Bruce and Trudy Van Wyk (ROHS/Pella) - *H* 'Prince of Peace' (\$450.27), Rod Kuenster (Iowa City) - *H* 'Cosmic Hippie' seedling (\$412), and Jeff White (ROHS/Parkersburg) - *H* 'Pomp and Circumstance' (\$400).



H 'Prince of Peace' - a seedling from *H* 'Dorothy Benedict' purchased by the Van Wyk's from Bob Axmear.
Photo courtesy of Bruce and Trudy Van Wyk

Kuenster and White along with Land of the Giants owner, Jeff Miller, donate as a team and generated the most money for the second year in a row.

All proceeds from the AHS Online Auction go toward publishing *The Hosta Journal*.

Lee Coates

ROHS Spring Meeting Speaker

Lee Coates is a semi-retired plant geek, writer, speaker, and purveyor of fine Ozarkian humor. You can read more about him at [The Papercrete Potter](#) or [Ozark Landscapes](#).



Lee and Peggy Coates at Hosta College

Lee often calls himself "Mr. Peggy" - the other half of Peggy's Flowers, the business that he and his lovely wife, Peggy, operate in Highlandville, Missouri. Lee attended The School of Hard Knocks and possesses a degree in Common Sense. He is the former mayor of their town and continually serves his community in many facets relating to environmental issues and public gardens. He serves on the Board of Directors of a Southwest Missouri Public Garden ([Friends of the Garden](#)) as the chair of the Speaker's Bureau

donating many hours and having a good time teaching others about trees, flowers, and the ecosystem.

Lee travels extensively vending and speaking about Japanese Maples, dwarf conifers, and container/trough gardens created in his papercrete form of hypertufa. There isn't anything in horticulture that Lee cannot have fun talking about.

Lee's topic will be "Landscaping with Miniatures - Hostas and Others".

2012 Dates to Remember

Sunday, April 15 - Noon to 5 PM

ROHS Spring Meeting

Henry A. Wallace Country Life Center,
Rural Orient, IA

[The Wallace Centers of Iowa](#)

Speaker: **Lee Coates**

June 3

Dubuque Hosta Festival

Dubuque Arboretum

Dubuque, IA

June 13 - 16

AHS National Convention

Nashville, TN

[2012 AHS National Convention](#)

Sunday, June 24 - 8 AM - 4 PM

ROHS Summer Tour and Auction

Roland, Jewell, and Ames area

July 12 - 14

Midwest Regional Hosta Society Convention

Rochester, MN

[2012 Midwest Regional Hosta Society Convention and Tour](#)

Sunday, October 14 - Noon to 5 PM

ROHS Fall Meeting

Iowa Arboretum,

Rural Madrid, IA

<http://www.iowaarboretum.org/>

Speaker: **Bob Solberg**



Josh Spece is well known in Iowa and the Midwest and National hosta communities. He is an accomplished speaker on hostas and water gardening. Josh has written articles for *The Hosta Journal* – winning the AHS Best New Journal Author Award in 2008. He has been instrumental as webmaster for the AHS website for a number of years. Josh and his mom, Sue, own **In the Country Garden and Gifts** near Independence, IA. They and other family members often vend at AHS and MRHS conventions. Last year Josh took over as webmaster of the ROHS website, and he has done a fantastic job with all that has been asked of him – sometimes on a very short notice.

Recently the Spece family was one of two Iowa finalists of *Extreme Makeover: Home Edition*. When the other family was selected for the show, the community of Independence came together in true small town Iowa fashion to make a new home a reality for the Spece family.

Josh, who recently turned 32, and his younger siblings - Jackie, 30, and Jake, 23 - have a rare form of muscular dystrophy called spinal muscular atrophy. All three use wheelchairs. In a recent Des Moines Register interview, Josh commented, “*We don’t know anything about how it’s supposed to be for everybody. It’s just the way it’s always been.*” He has been wheelchair bound since the age of 2.

Fundraising events have already been held and more are being planned in support of the **Building a Dream in the Country** project. Kathy Finholt, owner of Kathy’s Kakes in Independence, is heading up fundraising efforts. One of the first events was hosted by the winners of the *Extreme Makeover* home in West Union, IA. An open house tour of their home was held in late January (\$10 per person,

\$25 per family) with all proceeds going to the Spece family. 1825 people toured the Gibbs home and over \$17,000 were raised.

Building a Dream in the Country is working with McNamara Custom Carpentry of Urbana, IA, to adapt an All American Home floor plan for wheelchair accessibility. Voice activated Smart Wiring and fixed ceiling lifts will be added features. The new home will be built next to the new location of **In the Country Garden and Gifts** on the farm of Josh’s grandmother, JoAnn Johnson. To date, approximately one fifth of the \$200,000 needed has been raised.



Josh Spece and his mother, Sue Spece
Photo courtesy of Kyle Munson, Des Moines Register

A bank account has been set up for the project, and donations to **Building a Dream in the Country** can be made at any BankIowa location or mailed to BankIowa, PO Box 229, Independence, IA 50644.

To learn more, please visit the website at [Building a Dream in the Country](#).

You can join the Facebook page at [Building a Dream in the Country](#)

*“A dream you dream alone
is only a dream.
A dream you dream together
is reality.”*

John Lennon

By Reldon Ramsey



2012 MRHS Convention

Plan on attending the 2012 Midwest
Convention in Rochester, MN
July 12, 13 and 14

The theme for the 2012 Midwest Region
Hosta Convention is “Operation Hosta”.

Visit our website to see our promotional video,
convention schedule, convention gift hosta –
‘Candy Kisses’, registration information, tour
gardens, and much more.

[2012 MRHS Convention](#)

The registration fee includes three meals (Friday
dinner, Saturday box lunch, Saturday banquet),
convention gift hosta, handbook, auction, vendors,
hosta leaf show, Saturday garden tours, keynote
speaker: Don Engebretson (The Renegade
Gardener), speakers - Don Dean, Rob Mortko, and
Robert Solberg, Judges Clinic I, and Hospitality
Room Thursday, Friday and Saturday.

There will be an optional garden picnic on
Thursday evening, July 12th at Camp Creek Farm
(Mike and Cindy Tomashek) near Preston, MN, in
the heart of southeast Minnesota bluff country.
The evening includes a BBQ picnic, hosta gardens
and a barn renovated into a remarkable house to
tour and enjoy.

Vendors are Green Hill Farm, Inc. (Robert M.
Solberg), Jack's Plants (Jack Barta), Made in the
Shade Gardens (Rob Mortko), Naylor Creek
Nursery (Gary Lindheimer), Silvers-Elbert
Nursery (Bill Silvers), and In the Country Garden
& Gifts (Josh Spece).

See you in Rochester for the best
MRHS convention ever!

Hosted by: *Shades of Green Hosta Society*
(SOGHS) of Southeastern MN

2012 AHS CONVENTION

NASHVILLE, TN

Spring has sprung in Middle Tennessee, and we are
excitedly awaiting your visits to Nashville and the 2012
AHS Convention June 13-16th. For full details of the
convention and schedule, visit [2012 AHS Convention](#).

Registration: Full registration of \$249 continues
through a postmarked date of 4.15.12. After that
time, a late registration fee will apply until
5.15.12. For a \$10 convenience fee, you may
register using Visa or Master Card. Registration
forms may be printed from the website.

Tours: The Garden
Tours of Nashville
has reached
capacity. Space is
still available on
the Civil War Sites
in Franklin, TN,
which includes the
period garden at
Carnton Plantation.



Grand Ole Opry tickets are available through
GrayLine. See [2012 AHS Convention](#) for contact
information. GrayLine will have a table in the
hotel lobby on Tuesday afternoon where tickets
will be distributed to those who have made
reservations.

Hotel: Marriott Hotel reservations should be
made prior to May 20th. Any rooms remaining in
the block of rooms reserved for the convention
will be released at that time.

AHS Auction: Please contact Cindy Tomashek
regarding plans for the auction.

[Contact Cindy Tomashek](#)

See you soon! Cornelia, Virginia, and Friends

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- dare I say – ‘more mature?’, I’ve added a very critical gardening ‘tool’ of becoming willing to ask for help from others instead of trying to do everything myself. This gardening ‘tool’ of asking for help has then resulted in what is now my most valuable gardening asset: my gardening friends. My favorite gardens which I’ve ever visited are those of my neighbors, especially when they are willing to describe, teach, advise, and even share plants. I love the passion they have in their gardening, the varying artistic expressions, and how they each enjoy getting their hands in the dirt. I have the wonderful fortune of neighbors who love gardening and plants, and who also seem to tolerate my unexpected visits which often start with my cheery ‘hello’, and then a series of questions seeking their gardening knowledge.”

He goes on to say, “Sometimes I visit the neighbors to borrow a tool or helping hand, and sometimes I can return the favor of providing them a helping hand...and sometimes I even remember to bring back the tool that I borrowed. When you truly have gardening friends, the adage of ‘never a borrower or lender be’ does not seem to fit with my hosta friends.”



Eve’s favorite – The Radius Garden 200 Pro Transplanter

If you look inside the newsletter, you’ll note the listing of ROHS officers; most of us are David’s neighbors and gardening friends, including ROHS members Trudy and Bruce Van Wyk. David has wonderful gardens; dare I say we all enjoy discovering what new find he has brought home from his latest foray to Des Moines.

I’ll conclude with my favorite tool and why in fewer words, but with much less personality (solely for space saving for Reldon) for I, too, could write a book.

Spring, summer or fall you won’t find me in the garden without my favorite tool, the Radius Garden 200 Pro Transplanter. It is the perfect size for a woman. I love the rounded grip which allows you to use both hands for better maneuvering. It has a resin covered grip which means you’ll never get a splinter. The professional stainless steel construction makes it slightly heavier than other spades, but the variety of uses outweighs the weight. At just \$30 and with an annual sharpening, it is a tool that will last a lifetime in my garden. The Radius Garden brand can easily be found online and at various retail outlets in Des Moines.

Whether you’re a seasoned gardener or just learning to appreciate the feel of dirt under your nails, these tools will make your time in the garden easier and certainly more fun. The best news is that neither will break the bank.



By Eve Vandenberg



Hosta Travels with Renaldo:

Winter Scientific Meeting

“**Livin’ the Hosta Life**” with **Reldon Ramsey**

On Thursday morning – the day before we planned to head east for Winter Scientific in the western Chicago suburb of Lisle, IL – I received a call from Trudy Van Wyk. Bruce wanted to beat the winter snowstorm forecast for Friday. We were leaving that afternoon.

It was an excellent decision. While most struggled to reach the hotel with travel times nearly doubled, we relaxed and watched the snow fall. The snow had ended and major streets were cleared by the time we departed for an evening of meat, salad, and conversation at Gaucho’s Brazilian Steakhouse. The good conversations continued later in hospitality.

 Bob Solberg began **‘Bringing a New Hosta to Market’** by asking how many would someday like to have a hosta of theirs in the Hosta Finder. *“I want this to be for you.”* Four steps are involved – hybridization, selection, production, and marketing.

Bob feels that of the several hundred hostas introduced each year only a few are exceptional plants. *“Is your hosta marketable? It may be a great plant that isn’t necessarily marketable. Not everything is an A+ plant.”* In most cases, someone other than the hybridizer determines marketability. *“The hybridizer does the selecting, the nursery does the selecting and finally the consumer does the selecting.”*

 Clarence Falstad didn’t focus on the title of his talk: **‘What you always wanted to know about hostas that no one else knew either’**. *“There is a lot of information about hostas, there are a lot of experts about hostas, but nobody knows everything. There are a lot of things we don’t know about hostas.”*

To stimulate thought about the scientific process, Clarence Falstad posed an interesting question about variables and controls (or the lack of them) in the hosta garden. He then led a group discussion that focused for much of the time on nematodes and ways to control – if not eliminate – them in our gardens.

 Jeff Miller, owner of Land of the Giants Hosta Farm, shared his **‘Hybridizer’s Perspective’**. *“I had one pod of H ‘Fat Cat’ - 24 seeds. 24 seeds germinated, and I got 24 different looking plants from one pod. In my mind, I thought a bee pollinated it, and I should have gotten 24 plants that looked exactly the same. That didn’t happen so that started my interest in the genetics of hostas, and I started hybridizing hostas to see what I would get.”*

Jeff makes approximately 5000 crosses each year and plants an estimated 100,000 seeds. After culling, he keeps about 5000 seedlings, and plants them in his garden. He began hybridizing just six years ago. *“I do everything to an extreme.”*

Before the first morning speaker and during lunch and the breaks between classes, the three silent auctions for hosta seeds were extremely competitive as each came to a close. About a dozen dormant live plants were available in each round along with some 60 hosta seed packets that included both specific crosses and open pollinated seeds.

 Glenn Herold remarked that he looked at **‘Trees for the Hosta Garden’** slightly differently since he’s retired from the Peoria, IL area and moved to the Milwaukee, WI area. Desirable traits for a tree in a hosta garden are strong wood, good height and canopy, and non-competing roots. Most trees’ feeder roots seeking nutrients and oxygen are in the top 6” of the soil.

The roots of river bottom-type trees compete with hosta roots while the roots of upland timber-type trees (Red Oak, Basswood, White Oak, Hickory) do not. *“These are ones that we tend to prefer for the hosta garden because the roots are in minimal competition with the roots of the hostas.”* Nurseries and landscapers prefer to utilize river bottom-type trees that transplant easily and establish well under a variety of conditions.

 Roy Klehm’s **‘My Favorite Garden Plants’** was both enlightening and entertaining as he shared his experiences and favorites from his own 12 acre ‘monster’ garden in southern Wisconsin.

(Continued on next page)

25 FAVORITE HOSTAS

1. **H 'June'**
(Neo Plants, Ltd - 1991)
2. **H 'Paradigm'**
(Walden West, C. Purtyman - 1999)
3. **H 'Sagae'**
(K. Watanabe, AHS - 1996)
4. **H 'Komodo Dragon'**
(tie) (M. Seaver, C. Seaver - 2004)
- H 'Rainforest Sunrise'**
(Winterberry Farms, J. Anderson - 2003)
6. **H 'Liberty'**
(J. Machen, Jr. - 2000)
7. **H montana 'Aureomarginata'**
(F. Maekewa - 1940, AHS - 1987)
8. **H 'Halcyon'**
(E. Smith & BHHS - 1988)
9. **H 'Diana Remembered'**
(J. Kulpa - 1997)
10. **H 'Orange Marmalade'**
(R. Solberg - 2002)
11. **H 'Guacamole'**
(R. Solberg - 1994)
12. **H 'Brother Stefan'**
(O. Petryszyn - 1998)
13. **H 'Neptune'**
(H. Hansen - 2006)
14. **H 'Christmas Tree Gala'**
(L. Powell - 2000)
15. **H 'Thunderbolt'**
(Hawksridge Farms - NR)
16. **H 'Maui Buttercups'**
(W. Vaughn - 1991)
17. **H 'Blue Mouse Ears'**
(E. & J. Deckert - 2000)
18. **H 'Summer Breeze'**
(M. Zilis, J. Diesen - 1999)
19. **H 'First Frost'**
(tie) (P. Scolnik, R. Solberg - 2002)
- H 'Sum and Substance'**
(P. Aden - 1980)
21. **H 'Parhelion'**
(Walters Gardens, Inc. - 1997)
22. **H 'Blue Angel'**
(tie) (P. Aden - 1986)
- H 'Love Pat'**
(P. Aden - 1978)
24. **H 'Whirlwind'**
(J. Kulpa - 1989)
25. **H 'Dorothy Benedict'**
(tie) (R. Benedict - 1983)
- H 'Praying Hands'**
(G. Williams - 1996)

"We use our garden for enjoyment - number one; creativity - number two; and knowledge - you learn a lot when you do it yourself."

Referring to seedling selection, Roy remarked, *"I pick out the real hardy ones - the ones that perform, the ones that have vigor and beauty. Performance is real important in plant production."*

 Mark Zilis began **'Tissue Culture - Past, Present, and Future'** by saying, *"It's something that I've been involved with for my whole horticultural career."* He learned the tissue culture process while in grad school at the University of Illinois, and then established a TC lab at Walters Gardens before starting his first business with a college friend. A tissue culture lab was a small part of that business. In 1992, the business was split and Mark moved the hosta portion and tissue culture lab to its current location. *"I have been involved with tissue culture on a daily basis since that time."*

Tissue culture is an aseptic technic used on a small scale for the purpose of the rapid multiplication and production of plants. The process is also referred to as 'cloning' and 'meristeming'. Tissue culture has four stages: 1] beginning, 2] multiplication, 3] rooting, 4] acclimation to a greenhouse environment. Mark estimates that he has worked with at least 300 different genera of perennials in the last 36 years. Some are more successful in tissue culture than others.

After the Friday snowstorm, **everyone** was out for dinner Saturday night. We finally gave up on the Irish pub we'd enjoyed last year. A nearby Italian place had an hour and a half wait, but a few blocks away the Greek restaurant was more accommodating and had excellent food. And I experienced the true meaning of **'OOOMPA!'** when the heat from a flaming cheese delicacy hit the back of my freshly cropped scalp. Unfortunately my 'priceless' photo op was lost...

Back at the hotel, Bruce, Trudy and I had a relaxing evening of camaraderie with hosta friends as we talked the night away. And on Sunday morning, we headed back to Iowa with more great WSM memories thankful that we had missed driving through all of the snow we were seeing for the first time.

Hosta Travels with Renaldo: 2011 AHS National Convention, Part Two

“Livin’ the Hosta Life” with Reldon Ramsey

Saturday morning the buses rolled north in a light rain with New Hampshire gardens as our destinations.

This giant hosta leaf ‘detail’ filled a walkway at *Hosta Amour*.



Cheryl Cravino’s Pelham gardens are home to her business, *Hosta Amour*. We had become Facebook friends last winter so it was good to meet her in person. Cheryl very creatively ‘re-purposes’ what many would discard.

Roger Kinchen - an online friend I’d met at Hosta College earlier in the year - lives ‘just around the corner’ in Windham. Originally from the south he only discovered hostas five years ago. Through his Hostapix friends he’s established a collection rivaled by few in that short time.

Hybridizer, Rick Goodenough’s beautifully streaked *H ‘Nantucket’* in Roger’s garden.



His gardens are still new, but they will be amazing when established. Much of his expansive collection still resides in pots around his deck.

Kim Larsen and I shared a seat, a chat (between naps), and amazement at the woods aglow with mountain laurel on the ride to Chuck and Sue Anderson’s Mason Hollow Nursery. Which is most definitely ‘down in the hollow’.

Lunch, a well-stocked sales area, and display beds - established and new - competed for attention. Wandering the established gardens I stepped closer for a better shot and heard a distinctive voice say, “*Young man, would you be so kind as to remove your foot from my photograph.*” My embarrassed foot and I hurriedly complied with hosta photographer Mike Shadrack’s request.



A stunning specimen of *H ‘Cascades’* at Mason Hollow.



The optional Sunday tour to the coastal area of southeast Massachusetts included a brief stop at Plymouth Rock and the replica of the Mayflower.



(Continued on page 14)

2012 ROHS Summer Tour

Have you marked your calendar for the 2012 ROHS Summer Tour? If you haven't, the date is Sunday, June 24. The 2012 edition of *The Old Farmer's Almanac* predicts for June 15-22: scattered thunderstorms, cool, then warm (perfect for hosta); for June 23-30: sunny and cool (perfect for hosta and garden hosts alike). If the almanac's prediction is true, we've got little to worry about. Last year's tour was unique on many levels, but mainly because of the destructive storm that passed through Marshalltown six days prior to the tour followed by sweltering heat the day of the tour. Regardless, the 2012 show will go on.

Plans for the Summer Tour typically begin in winter and while not as tedious as planning a wedding, a lot of time and effort are put into the organization of the event. We do not send out a scout team a year in advance, though that would be a great idea. (Would anyone like to volunteer scouting efforts this year for next year's tour?) Instead, we rely on valuable tips, input, and often the generosity of our members. Identifying tour gardens that primarily feature hosta located within close proximity to one another and a date agreeable to all parties are paramount decisions. It is only when the nuts and bolts are solidified that that we can begin to work on the finer details.

This is where we are today - working on the details. It reminds me of putting together a 1000 piece puzzle. When the pieces fit together and you begin to see the image coming to life, it's satisfying. Recently I reviewed my notes from our post-tour meeting held last August and recognized a need for help to make the luncheon and auction run smoothly. As my Dutch mother-in-law used to say when planning Thanksgiving dinner, "...not so much if everyone helps." The same rings true for the ROHS Summer Tour. At our Spring Meeting on Sunday, April 15, you will find a sheet of paper on the tables asking for volunteers to help at the luncheon and auction. Rest assured the tasks will be minimal and allow for everyone to enjoy lunch and participate in the auction. If you would like to help, but cannot attend the Spring Meeting please email or mail your interest to an ROHS officer (noted at the front of the newsletter).

Lastly, let's remember the words of Phyllis McGinley: "The trouble with (hosta) gardening is that it does not remain an avocation. It becomes an obsession." The 2012 ROHS Summer Tour will surely showcase the obsessions of fellow gardeners and hopefully feed – to some degree - your obsession.

By Eve Vanden Broek

The American Hosta Society Publications Standard

Originator Credits After Cultivar Names

All American Hosta Society publications, whether written or online, shall follow this standard.

For articles, credit after a cultivar name shall be the person or persons who originated the cultivar as recorded in the AHS Registry. If originator is not given in the registration or the cultivar is not registered, the AHS Nomenclature Committee shall determine to whom credit is given. When deemed required, credits will be amended and altered by the Nomenclature Committee.

The first time a hosta cultivar name appears in an article it shall be written: 'Cultivar Name' (Originator's Name - Year of Registration). Originator's name or names shall include the initial or initials of the given name or names as recorded in the registry. Year of registration is written out, e.g., 2011. If the hosta is not registered, "NR" is used instead of registration year. When a cultivar name appears more than once in an article, further references to it may be just 'Cultivar Name'.

Award hostas, such as Summers, Fisher and Benedict; plants in Hosta Shows; photo credits; Popularity Polls and lists of hostas may have only the cultivar name and registration date or "NR," or just cultivar name, as considered best for each situation by the author and editor.

This standard has been approved by the AHS Nomenclature Committee, W. George Schmid and Warren I. Pollock.

The level front lawn and gardens of Rick and Sheila Goodenough's Marshfield home give no hint of what awaits behind the house. Rick has transformed the steeply sloping property into a series of steps and terraces where conifers mingle with perennials and hostas. His seedlings are tucked in throughout the gardens.

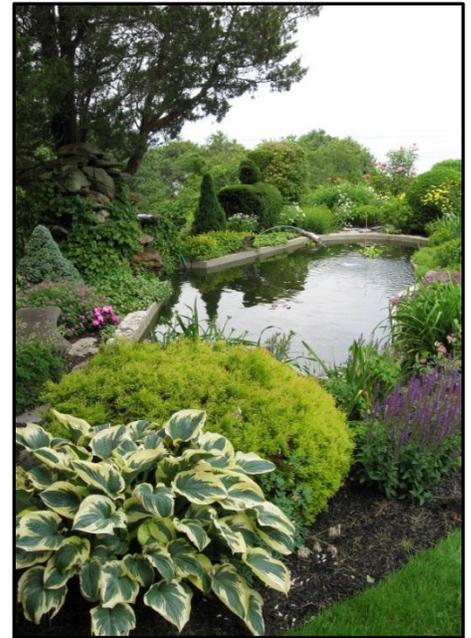


Steps connect terraces in the Goodenough garden.

A seedling displays the architectural form Rick is known for.



David and Rosemary Park's expansive grounds overlook Plymouth Harbor. Large hosta specimens abound in tailored gardens near the house, but initially an astounding grouping of topiaries drew everyone to the seaside view.

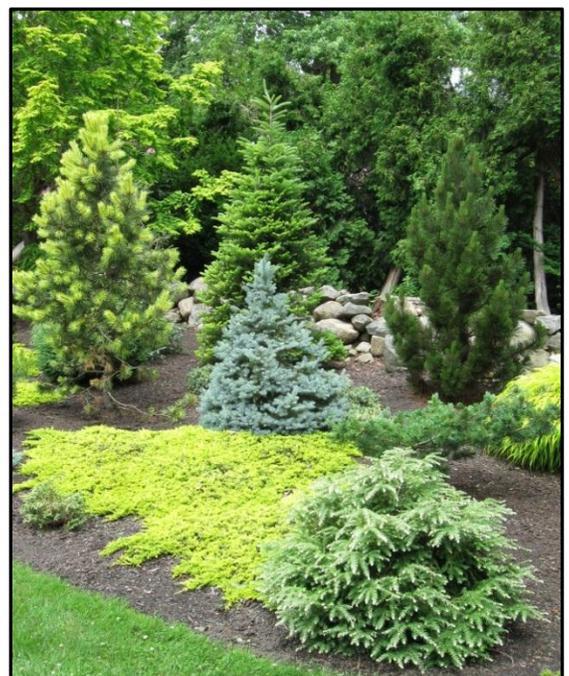


This water garden adds a slightly more formal element to the Parks garden.

Gerry and Rindy Bennett's home (circa 1799) in Hanover is surrounded by impeccable gardens featuring a mix of hostas and other perennials. A wide border running the length of the deep property contains an extremely impressive and diverse conifer collection.



A replica mid-1600s pilgrim home filled with antique furnishings of the period stands at the rear of the property.



ROHS Fall Meeting Minutes

 October 9, 2011 

ROHS President, Marlys Anderson, brought the meeting to order at the Neal Smith Prairie Life Center near Prairie City. She thanked Linda Baer and Robin Vos and everyone for providing the great food; Marcia Leaper for her entertaining presentation, 'Why I Love Gardening'; and Carol and Mel Visser for providing the fall-themed mum centerpieces used as door prizes.

New members at the meeting were Sue Haworth and her mother, Eunice, of Indianola, and Carrie Glessner and Rebecca Sharpshair from Marshalltown.

Spring Meeting minutes were published in the fall newsletter. It was moved by Herman Kopitzke and seconded by Marilyn Gliem to accept them as published. The motion passed.

In the absence of David Dettmann, the Treasurer's report was given by Vice President, Eve Vanden Broek. The checking account balance after Spring Meeting expenses, the cost of engraving the re-dedication stone for the Russ O'Harra 'Pocket' Garden, and the ROHS donation to the AHS for HVX Research, and the revenues and expenses from the ROHS Summer Tour and Auction was given.

Marlys Anderson informed the group that Eve Vanden Broek will be put on the ROHS bank account as a second person in case of emergency.

Correspondence with the club was shared by President Anderson from the following people: Catherine Healey, the winner of the Best Artistic Design trophy at the AHS National Convention sponsored by the ROHS; Rob Mortko on behalf of the AHS for the HVX Research donation who included 1000 pamphlets about HVX; and Marilyn Werner, a Harshbarger Hosta Society member, who was acquainted with Russ O'Harra.

Committee Reports

Lisa Swanson, one of the co-hosts of the 2012 Spring Meeting, reported that they are ready to welcome the club to the Henry A. Wallace Country Life Center near Orient. She requested that people NOT use GPS to locate the center as it is incorrect. Use the directions at www.wallace.org.

The 2012 ROHS Summer Tour gardens were announced by Kenn Outzen. #1 – Greg and Sue Olsen, Roland; #2 - Kenn Outzen and Dean Koob, Jewell; #3 - open, #4 – Nancy Briggs, west of Ames. A garden in Ames was scheduled to be the third garden, but recently backed out. Another garden in the Ames area is being sought from several possibilities. Eve Vanden Broek asked club members to let her or Kenn know if they knew of potential gardens to fill the open slot. The date of the tour is Sunday, June 24th.

The 2012 Fall Meeting will be hosted by Carl and Robin Vos. Carl will contact the Iowa Arboretum to schedule the meeting. Marlys Anderson announced that Bob Solberg will be the speaker. He will be speaking to the Harshbarger Hosta Society that weekend. The two clubs will share the cost of his expenses. Reldon Ramsey contacted Carolyn Hamilton from the Mississippi Valley Hosta Society in advance of their fall meeting to see if they would be interested in having Bob Solberg as their speaker, also.

Mel Visser updated the group on the Botanical Center's restructuring efforts. Money has been raised and a new GPO who will take over in February 2012 has been hired. He intends to speak to her then about establishing a Russ O'Harra Hosta garden on the grounds as part of the renovation plans.

Eve Vanden Broek reported that due to the dry summer she spent a good deal of time watering the rejuvenated Russ O'Harra 'Pocket' Garden in downtown Des Moines because it does not have an automatic watering system. Eve had to coordinate with the manager of Terrus Real Estate each time she watered. Principal (where the garden is located) will no longer be using Terrus Real Estate as their property manager. Eve hopes to convince Principal to put in an automatic watering system and asked the group if anyone is familiar with any companies that install them. She stated that she doesn't feel with all of her work responsibilities that she will have the time to continue manually watering the garden in the future. There is an agreement in place with Principal: each year both the club and Principal will look at whether the club will continue to maintain the garden. Principal has the option to use the area for something else if they so choose.

Unfinished Business

Reldon Ramsey explained the origins of the New Member Program and told about the brochures that have been used to promote the program. New members receive a \$12 Gift Card toward the price of a hosta that is redeemable at any of the participating businesses which are owned by ROHS members. Five vendors have been involved this year: Bedwell Gardens/Diana Bedwell, Granny T's Garden/Traci Seltz, Kat's Garden/Kathy and Gary Hoard, Lincolnview Farm/Nancy Briggs, and Skycrest Gardens/Tom and Marilyn Kenney. Piney Ridge Greenhouse/Ron and Ann Borwick plan to be involved in 2012. All of the information about the program and the participating vendors is on the ROHS website at www.rohs.org.

Marlys Anderson gave background on the pending donation of \$2000 to the Iowa Arboretum for a handicap accessible ramp into the 'Hosta Glade' and shared communication she received concerning it from Dorothy Lewis of the Iowa Arboretum.

(Continued on next page)

Herman Kopitzke commented on current conditions there and noted that a new director will be in place soon. Reldon Ramsey shared his observations after visiting this summer. Herman Kopitzke moved that the ROHS rescind the \$2000 donation until such time as something is done to upgrade the area and then the club can make the offer again. The motion was seconded by Skip Hitchcock and passed unanimously.

President Anderson said that the change to the club's constitution regarding the number of newsletters per year has been made on the website and will be updated in the President's Book. She asked if the change needed to be published in the newsletter. Herman Kopitzke stated that it isn't necessary as long as the constitution is downloadable.

President Anderson said the website 'looks great' and that Reldon and Josh Spece have done a great job. She noted that the 'News & Announcements' section has been a great tool. She hopes to see an improved section of the O'Harra hosta introductions in the future with pictures and stories. She requested that if anyone has pictures and/or information to forward them to Reldon or herself.

Reldon Ramsey requested that people update their email addresses for the ROHS database.

New Business

Marlys Anderson related that she is making a President's Book that future presidents can reference. She also discussed the position and necessity of Historian since there is a website and no one has volunteered to be Historian. She is willing to make a notebook with newsletters and pictures.

President Anderson shared that the 2014 AHS Convention 'may' happen in Cedar Rapids hosted by the Harshbarger Hosta Society. Marlys has offered HHS President and ROHS member, Judi Pohorsky, the support and help of the ROHS with the convention.

President Anderson discussed the memorial money that was received by the club for Ted E. Davidson. One suggestion from the Executive Committee was that a scholarship be established in his name since Ted had been involved with education for many years. Marlys spoke with Ann Davidson and that was her wish. After discussion, a motion was made by Reldon Ramsey to establish a scholarship in the amount of \$250 each year to a student attending DMACC's Horticulture Program. The recipient will be selected by DMACC. The scholarship will be called The Ted E. Davidson Memorial Scholarship and will be funded by the Russ O'Harra Hosta Society. The motion was seconded and passed unanimously.

President Anderson informed the group that the Executive Committee is working on establishing a yearly operational budget for the future. She welcomed all who are interested to attend the informal executive meetings for additional input.

Ideas were solicited for the upcoming 20th Anniversary of the Russ O'Harra Hosta Society in 2013. Gary Hoard suggested having a special hosta for club members. Volunteers to be on a 20th Anniversary committee are Frank and Ellen Glasgow, Reldon Ramsey, Bruce and Trudy Van Wyk, and Carl and Robin Vos.

Marlys Anderson has had requests by club members for the Membership List. After discussion, it was agreed that the list be distributed among the membership. Reldon Ramsey will update the membership list and distribute it.

The meeting was adjourned.

Submitted by Reldon Ramsey for Teresa Innis



Jeff White's *H* 'Pomp and Circumstance' – his seedling from the cross of *H* 'Crazy Quilt' x *H* 'Beer Belly Blues'.

Photo courtesy of Jeff White



Lee Coates speaking to a group of gardeners earlier this year.

Photo courtesy of Lee Coates

FAVORITE NEW HOSTA

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Trudy Van Wyk:

// 'Curly Fries' – nice small hosta with substance and nice wavy leaves.

Becky Sharpshair:

// 'Silver Bay' - it was a hardy grower.

Traci Seltz:

// 'Hubba Hubba' - gorgeous streaking; been waiting for it for a while.

Ron Borwick:

// 'Miss Ruby' – I have it in a pot so I can see it up close. Beautiful leaves, red petioles, incredible bloomer.

Carrie Glessner:

// 'London Fog'

Carol Leslie:

// 'Clifford's Stingray' is new to me and so far I like the leaf shape, substance and color.

2011 Worst Performance

by a **Hosta** in your garden

Trudy Van Wyk:

H. 'Tropical Storm'

Traci Seltz:

Everything in my poor slug-ridden north garden. Or H. 'Love Spat' – minimal growth with minimal streaking.

Carrie Glessner:

H. 'White Feather' and H. 'Tattoo'

Frank & Ellen Glasgow:

H. 'T Rex' - hasn't performed, hasn't grown much, just is plain, plaino.

Becky Sharpshair:

H. 'Carrie Anne'

2011 BEST PERFORMANCE

by a **HOSTA** in your garden

Kenn Outzen and Dean Koob:

H. 'Parhelion'

H. 'Bobbin'

H. 'The Sun King'

Becky Sharpshair:

H. 'Striptease'

H. 'Elegans'

H. 'Baby Bunting'

Carrie Glessner:

H. 'Silver Bay'

H. 'Foxfire Irish Moon'

Traci Seltz:

H. 'Gunther's Prize'

Trudy Van Wyk:

"When you ask about hosta performance... this could mean many things to others. What I am always looking for is who has the most viable seed pods. My Best Performance was an H. 'Imagine' #409 OP seedling, named H. 'Glorious Love'. H. 'Imagine' is a Lakeside streaked hosta Jeff White purchased from Mary Chastain on an auction.

Welcome New Members!



2011 – James & Joyce Baird, Clive; Janine Bennett, Boone; Karen Creager, West Des Moines; Don & Dee Draper, Ames; Sue Dvorak, Chelsea; George Geisler, Sheldahl; Carrie Glessner, Marshalltown; Peg Armstrong Gustafson, Waukee; Sue Haworth, Indianola; Collette Janisch, Cedar Rapids; Don Lovell, Marshalltown; Rebecca Sharpshair, Marshalltown; Teresa Vokoun & Ed Siems, Marshalltown.

2012 – Tammy Devore, Webster City; Karie Lash, Des Moines; Carolyn Magnani, Johnston; Diane Sweet, Des Moines; Ruth Walton, Chelsea.

Winter Scientific Meeting

Bob Solberg: Bringing a Hosta to Market

“Today I’ve been asked to talk a little bit about how new hostas come to market and all the steps that occur.” Bob Solberg began by asking how many in the audience would someday like to have a hosta of theirs in the *Hosta Finder*. *“You’d probably like to have it listed in that section that says ‘too numerous to name’ all of the nurseries. And for \$25.99. Right? That’s what we’re looking for. I want this to be for you.”* His talk wasn’t only for those involved in hybridizing - hosta consumers gained a better understanding of the process as well.

Four Steps

Four steps are involved – 1) hybridization, 2) selection, 3) production, and 4) marketing. *“Hybridization we’re going to talk very little about.. but that is the beginning of the process obviously. We’re going to talk about selection quite a bit. Selection on the hybridizer’s point; by the nursery’s point. Selection is a big part of it, and then a little bit about production and a little bit about marketing and what kind of things to take into account.”*

“If you do have a little plant or a big plant you want to introduce someday, and you’re shopping it around to different people who might help you do that it’s important for you to know what goes on in everybody’s mind. It makes you more aware. It makes you more in a position to put the plant in the right person’s hands so that whatever you want to happen for it will happen.”

Every year several hundred hostas are introduced, and Bob believes that’s too many because only a few are exceptional plants. *“I wouldn’t mind if they were all good ones, but unfortunately we have a very small number of very good hostas that are introduced every year.”*

Bob remarked that he is fortunate to be able to do all four of the steps. *“I don’t actually do the tissue culture, but I contract for it, and I deal with all the labs.”*

Humorously, he said, *“So if I have a little plant at home, and I really like it and none of you like it, I don’t care. If I want it in the Hosta Finder, I can introduce it. Right? I don’t propagate very many of them if you don’t like it. Or I try to convince you of how cool it is.”*

Seedlings and Sports

“There are seedlings and sports. For seedlings, hybridizers look to the future. They’re always trying to create that great new plant that nobody’s seen before. They have it in their brain somewhere. They’re looking for goals. They’re looking for traits.”

“Sport fishermen are different. They’re always looking backwards. They find a new sport and say, ‘Is it out there already? Does anybody else have it?’ And if they do, they say, ‘Well mine’s a little different’. We all want that plant with our name on it in the Hosta Finder, but you have to control that desire with sports.”

Hybridizers strive to develop plants that are distinct and recognizable. *“More than likely this is the hybridizer’s criteria: Does it fulfill the goals? Does it match those traits that they wanted to match? They also get trapped into this: ‘Is it pretty?’ And you know what most of you buy? Pretty. You can care less about the hybridizers’ goals - unless you’re a hybridizer. ‘It’s a cool plant. I know what he was trying to do, and I’ve got to have one.’ But mainly it’s about pretty isn’t it?”*

Another factor is good growth. To growing laughter, Bob asked, *“How many of you care about that? If it’s pretty and it doesn’t grow, you’ll **make** it grow. And you’ll buy it again. And you’ll buy it again.”*

“For me this is very important.” If a plant is distinctive, matches his goals, is pretty, but doesn’t grow, Bob said, *“You’ll never see it because that’s important to me. I don’t think it’s that important to you guys.”*

Oftentimes, a hybridizer has invested so much time - and themselves - in a plant that they feel they have to get it on the market. *“You made four crosses to get that plant. You know it’s not the best plant out there, but you’ve got to do something with it.”* These are things that go through the hybridizer’s mind.

Marketability

“Is your hosta marketable? Can you find somebody who’s willing to propagate it for you? It may be a great plant, but if you can’t get someone to propagate it for you, it might not be as good as you think. It still might be a great plant - it’s just not necessarily marketable. If they get excited about it and want to offer it for sale, then there’s a very good chance that it’s a marketable plant.”

“There are people who will give you advice on what your options are.” Rob Mortko, Executive Secretary of the American Hosta Growers Association, along with Bob (past Executive Secretary) are two resources for anyone exploring options in marketing a plant. “I’ll tell you what other people do, and you can figure out what’s best for you.”

“The best thing might be to have your plant - name it, register it, chop it up and pass it out to your friends. There are people that do that all the time, and they’re havin’ a ball. Some of you would say they’re some of the best hybridizers right now. They’re just hybridizing, trading plants and creating prettier things. And that’s OK, too.”

Seedlings

“We’re going to talk a little bit about gold hostas because I actually hybridize a lot for gold. Not everyone does.”

Bob showed photos of several of his breeding lines that he has been working with for a number of years and explained how he selected plants to be marketed. The first group started with a *H. montana* sport selected for its yellow coloring. After developing an f² generation that exhibited waviness, he crossed it with another *H. montana* sport to add size and developed an f² generation with that group of plants as well. Even though they both have good yellow color, Bob wasn’t completely satisfied with either of the two remaining plants.

“That’s four crosses - two f² crosses. For me, a generation in hostas is two or three years. So we’re looking at eight - ten - twelve years involved in it, and there they sit year after year. At some point, either they go to the lab or they go to the compost pile. All the other siblings have already gone to the compost pile.”

*“So people come to me and they say, ‘Would you name a plant for someone?’. When that happens, I usually show them three or four seedlings.” One has been named *H. ‘Hobby Time’* honoring Dr. Hobby - a well-known North Carolina doctor. The other was named *H. ‘Delona’s Smile’* in memory of Delona Shockley from Tennessee, and it will be the convention plant in Nashville this summer. “That’s one way to market a plant to get out, but not be in huge numbers. Not everything is an A+ plant.”*

“How long does it takes to get a hosta through tissue culture?”

“The lab usually takes two years and then there’s another year. On average for me, it takes eight years from a seed until I put it in your hands - if I’m in a hurry. Some take ten to twelve years - some it’s in the evaluation, some - something happens.”

“Are all of these plants registered?”

“Everything is registered. No matter what - it gets registered. I want other people that use the plant to know what’s in it. You want the name out there. You want it known that it’s your plant.”

The Longianas were so named because the original cross was a *H. longipes* seedling (*H. ‘One Man’s Treasure’*) and *H. sieboldiana*. Bob planted over 800 seeds and most of the seedlings were blue, but some were yellow - but not all the same shade of yellow. “*It seems like when you cross blue plants, you get yellow plants. I’m not sure why.*” He theorizes that ‘there’s some of that *H. ‘Frances Williams’* yellow in everything these days’. The one selected to market was an f² seedling he named *H. ‘Sun Shower’*.

*“And then I wanted to take *H. ‘Sun Shower’*, and I wanted to shrink it. I had another blue Longiana that was the smallest one I had, and it was cupped and it was ruffled and it was small. But I’d rather have a yellow to introduce than a blue. That’s easy - that’s just one cross. I grew 200 seedlings out of that figuring I would get what I wanted, and I pretty much did. And we have now selected two of the 200 seedlings.”*

But in the three or four years it took for those seedlings to grow, Bob made a cross with *H.* 'Sun Shower' and *H.* 'Designer Genes'. Seedlings from that cross have purple in both the petioles and scapes. "So I started to think that this plant looks better than the other plant I've been working on so long. Why should I introduce that one?" After making crosses between these two breeding lines, the next generation of seedlings has colored petioles and scapes, and the *H. sieboldiana* round leaf shape is coming back out. "Now it's like two whole groups of plants that we'll probably compost. They're wonderful plants!"

*"But again – it's a marketing decision. You might do something different. You might introduce them all, but you don't have a business. But I don't want to introduce them all because I **do** have a business. When you have a business you have to make these decisions. When you're a hybridizer, you don't necessarily have to make those decisions."*

*"OK. Another story. We started out a long time ago with *H.* 'Whiskey Sour'." Bob commented that *H.* 'Whiskey Sour' is a good garden plant with pretty yellow color in the spring that turns green. "So I said, 'Well, I can fix that'." In attempting to make it more yellow, he inadvertently added red petioles. Siblings from that first generation were crossed with each other and one seedling was named *H.* 'Strawberry Banana Smoothie'.*

It and its siblings had different leaf shapes and were more yellow and redder. "So now I'm selecting for two things instead of one. I've got a plant that stays yellow – a beautiful yellow plant that in the sun it'll turn white - so we've done what we wanted to do there. But now we've got this red 'problem' so we started going with the red." Bob took this line of seedlings and crossed it with another line of red-petioled plants out of *H. clausa normalis* and more leaf shapes resulted. *H.* 'Smiley Face' - a yellow that works well in the shade - and *H.* 'Mango Salsa' - a sun tolerant yellow - have been released from this group.

"Now we've only introduced one out of the first cross – well, actually we did two. We did two out of the second cross, but this cross we're

gonna do four. Normally I only do one out of a cross, but in this case because the plants are so different – we have so much diversity in the cross – we can introduce four. You wouldn't even think that those are from the same cross. They look very different. So sometimes you introduce more plants than you think you're going to and it works out."

Sports

"Now sports have different rules. The number one thing about a sport is you can introduce it no matter what. We consider every sport to be just as unique as a seedling because we've found when we did the DNA studies that when a plant sports, it doesn't just change its colors - the DNA changes too. Maybe a little - maybe a lot. We don't know so we assume that your sport is a unique thing."

*"Now the problem of that is.. say I had a batch of 150 *H. plantaginea*, and I pulled this tetraploid one out of there. I sold you plants out of that batch and didn't know that there was one in there too, and you pulled it out. Those two might be identical because they're just clones of the same sport that came out of the same batch. So it's all a little tricky, but the first rule is we consider them all unique, and you can name your plant. It might not be marketable, but you can name it."*

"The other thing about sports is you don't have to wait all those years. Usually as soon as you put your hands on the plant, you know what it's going to do. You don't have to wait. You can take the plant straight to the lab."

*"How many of you have ever done that? **OH!** It's such an adventure! It's **ALL** in the lab and you're scared to death! You're scared to death. Sometimes they don't come back from the lab. They go to the lab, and they never come home. It's an exciting thing."*

Discussing the importance of distinction in sports, Bob asked, "How many of you have more than five *H.* 'Sum and Substance' sports with green centers? They're not all the same are they? It may be important and it may not."

He showed a sport of *H. 'Guacamole'* that is very waxy. Also in the picture were *H. 'Guacamole'* and one of its wider margined sports. *"It's almost white and the edge is almost blue. So when you take the other plants away, and it has to stand by itself – on the bench of Wal-Mart – does it look that different? See the dilemma?"* He also doesn't know if the plant can be a high production plant that is grown in the fields. Another concern is whether it's the type of plant that can be patented. *"Can it do all that? I don't know. So all that goes into this decision."*

Next Bob showed a sport of *H. 'Summer Lovin'* that looks similar to *H. 'Stitch in Time'*. *"The parentage is very similar. The only thing is – this one grows! And it blooms – you see there's a scape coming out of the middle. It actually blooms!"* He's unsure of the overall potential for it though because the *H. 'Summer Breeze'* family of sports doesn't hold up well in North Carolina's heat. *"I don't want to introduce a plant that people buy over and over and over again because they lost it."*

Who Do You Hybridize For?

"The first thing you need to figure out is do you hybridize for yourself? If you do, that's fine - or for your friends or a very small market. Or do you want your plants to be in the Hosta Finder? Do you want to be compensated? Not everybody does. A lot of people do and that goes into the process. If you want to be compensated, there are different rules about that - about marketability. And at some point, whether this plant goes into tissue culture or not has more to do with how marketable it is - who can see the future dollars.. – than anything else."

"Who makes that decision usually? In my case - I do. But in most of your cases, someone else will. You will take your plant, you will shop it around, and you'll get your feelings hurt. And I don't want you to get your feelings hurt because.. it's not your fault. It's not your plant's fault."

Selection

Bob's North Carolina nursery location can be a determining factor in the plants that he promotes. *"There's certain things.. like that *H.**

'Stitch in Time'-(like) sport. I don't know if I can grow them well enough to sell in May. By the time they get to June, they're going to look ratty.."

He has a similar problem with one of his favorite types - yellow *H. montanas*. *"We can't grow them at all in the south. They burn, they shrink – they just don't grow. So I can't sell any of those. It's not that they're not good plants. It's not that when I see one up here in a garden that they're not spectacular. I just can't do it. I'm not the guy. It has nothing to do with your plant."*

*"Do I have another one in the catalog that looks pretty much just like it? I sell 75 to 100 hostas. I don't need four that look the same. I can do two that look similar.. There was a time when Olga had a plant – *H. 'Mardi Gras'* – and I think it's a wonderful plant, but we had one of Jim Wilkin's plants that looked too similar.. the same size, the same coloration, the same everything. Now some other nurseries don't care."*

"Do I just have too many other new plants? I introduce about 15 - 18 new hostas a year. So if I have 25 people come to me with a plant, obviously I can't introduce them all.. because I have a few of my own plants too."

"Do I have too many other hostas I'm paying royalties on? I can't afford to pay royalties on every plant that I sell. I have the advantage of selling my own plants. I pay myself the royalties. That puts food on the table. So that's a factor. You get too many plants you're paying royalties on, and the finances don't work so well."

Poor growth can come into play in how Bob markets a hosta, and it may be discounted if it doesn't grow well for him. If the plant doesn't sell, then it wasn't a good deal for any of the parties involved.

"Do I like the plant enough to market it aggressively? If I think is really cool, I'll sell the plant for you. If.. I think it's just OK, then I shouldn't take it. It's not fair to you. Give it to somebody else. Somebody is going to think it's really cool. They'll have a better sales pitch."

“The hybridizer does the selecting, the nursery does the selecting and finally the consumer does the selecting. Selection is the fun part. Selection is why hybridizers hybridize and why nurserymen sell plants.”

Production

“Increasing numbers - that’s production.” Plants like H. ‘Simply Sharon’ are extremely slow growing. “Other plants are weeds. Think of H. ‘Lemon Lime’ or H. ‘Golden Tiara’ – Bob Savory had a million H. ‘Golden Tiara’ in about five years just chopping them up.

“Division is still a possibility depending on the plant, depending on what you’re doing with it. If you have a streaked breeder that’s a wonderful plant, and you want to share it with people or you want to sell it for \$500 a plant – chop it up. Don’t pay to culture. Don’t get all these plants back that all look different. Just take those good divisions off. Sell them. You’ll make more money than if you tissue cultured it. That’s easy to do. Anybody can do that. You’ve just got to find some fool to buy it. That’s where the marketing comes in.

*“Tissue culture will **usually** produce large numbers of plants over time. Not always.” There can be growth issues and the problem of not staying true to the original plant. “But these days.. the labs are very good. You give them a plant - they rarely lose one. You get the plants back – they’re culled if you want them to be culled. Tissue culture has come a long way in the last 25 to 30 years. It really has. It’s very reliable. But things go wrong. You just have to realize that so when you send that **only** one you’ve got, you’re rolling the dice.”*

Choosing a Lab

Bob said that many nurseries don’t give the hybridizer an option with the tissue culture lab to be used, but labs have different strengths. “And if they say, “They’re all the same – it doesn’t really matter” - you might want to think about that. I use different labs. I put different plants in different labs because different labs do certain things better than other labs. They do everything pretty much the same, but they all do it differently. They grow the plants out differently. They have a little

different techniques.” Some have better luck growing wide-margined plants while others are better with white-centered or solid colored plants. If the hybridizer has a specific lab preference, Bob will honor that request.

H. ‘Stitch in Time’ and H. ‘Striptease’ sports have a very low rate of being true to type in the tissue culture process. “If you have a sport of H. ‘Striptease’.. you’ll get some, but you’ll get all of those other sports of H. ‘Striptease’ - and you’ll get H. ‘Gold Standard’.” Only 100 – 200 plants out of 2000 will be like the original plant. Often a nursery will decline to put a plant with that type of history into production.

Decreasing Numbers

“Once you’ve got all these plants, you’ve got to get rid of them.” Years ago the prevailing wisdom was that if nurseries weren’t putting up new hoop houses each year, the business was failing. “But I decided at one point that I was done putting up hoop houses. And it was time for me to sell the plants that were in the hoop houses to make room for new plants, and it’s worked out very well. So when the employees come to me and say, ‘We have no place to put these liners that we just potted up’ then I’d better get on the phone and sell some plants.”

Knowing who your customers are is an important factor in marketing hostas - whether it’s liner companies, bare root companies, or retail nurseries. “Again. I do it all. I sell all sizes. I sell to everybody. I have that luxury. Other people don’t.”

Patents

“So when is a patent a good idea?” Showing his seedling with most of the leaf surface covered by red, Bob said, “Maybe when you get a red hosta. We saw H. ‘Doubled Up’ – the tetraploid H. plantaginea. Should I patent that? What do you think? You don’t care - do you?”

To audience laughter, Bob said, “That’s the reality of it. You don’t care. The people that care are C.H. – he cares. Mark cares. I care. It’s on our end of it. That’s where the patent works. It’s the marketing part of it.”

“Patenting a plant requires a huge marketing strategy. It takes a lot of effort. When I patented H. ‘Orange Marmalade’, I had to make sure we could get rid of the million plants that were sitting over in Holland. Or I had to pay. That’s the way it works. You have to do a lot more work. There’s the upfront cost, and if it’s a good plant, you get that back, but there’s that time-lag. It takes a lot of years before the money really starts coming in. So it’s not something you just do.”

“What does a patent do for you?”

“In this country - the patent is good for the United States - you control the production and the sale of that plant in this country. So no one can sell the plant without your permission - at least not the first time. Now you can resell it. So when we introduced H. ‘Orange Marmalade’, I contracted with Q & Z. They had the exclusive right to propagate the plant in this country. Later on we added Walters, we added Dick Yost, we added people in Holland. You can produce it anywhere in the world, but you can’t bring it into this country. Now you can produce it in China, and you can sell it in Europe all you want. You can sell it in Canada all you want unless you go get a Canadian patent. Or in Europe, you get Breeder’s Rights which is a more complicated kind of thing. So you can get all those things for your plant too. And we might do that for this one. (His red-leaved seedling.) But I didn’t want to do it with H. ‘Orange Marmalade’.

*“Basically what it does is allow you to license people. They pay you a royalty to propagate your plant, but that means you have to police that. If someone else is trying to bring them into the country, you have to find them and you have to get mad at them and you have to be mean. There’s a lot that goes into that because if you **don’t** police your patent, you lose your patent. It’s not like you get the piece of paper, and you go merrily along. It’s a lot of work. And you can hire a company to do all of this for you, and they will pay you a percentage of your royalties, and they will keep the rest. So there are ways you can sit back and the checks roll in. They just won’t be as big.”*

“Is a trademark even more work for you?”

“Well some people now patent plants and they trademark the names. You trademark the name, the letters – there is no plant that goes with the trademark. So we saw those yellow things out of H. ‘Sun Shower’. Say I introduced the first one the first year and called it a trademark plant - didn’t have a cultivar name - just a trademark and I called it SUNNY DAY™ – all capital letters. And then that other one came along with the pink scapes, and I said, ‘Well that’ll be SUNNY DAY™ now’. And then those other little ones.. ‘That’s SUNNY DAY™ now’. That’s what a trademark can do for you. You can change the plant and keep it under the same name. Usually though they trademark a series or a group. The Longianas I could have trademarked.. But again people pay you to use your trademark to put on their literature.. It’s another way to make a little money. I don’t like them because.. you can’t register a trademark name as a registration name. It’s just a little messier, but you can do it.”

“What’s the story on the red plant?”

“It’s from H. ‘Beet Salad’ and a purple seedling of mine, and in three years it’ll be in your hands – three or four. It stays red. Actually, what happens is it comes up with a red edge, and then it bleeds down from the top instead of coming up.. It has some red in the petioles and up into the leaf just like the normal thing, but it has red tips and it starts to bleed down from that. Last year it lasted until about the first of June, and it turned 100°F. The year before.. I went to the convention, and it was still red. I came back, and it was gone. It was 100°F. In some places, it may stay red all summer. I don’t know. In Holland, it probably will. Holland is a cold place. It’s something we will patent and market. Hopefully, when I’m 80 years old, we’ll get some money back, and I can pay the light bill.”

Choosing a Marketing Partner

All nurseries do things differently from each other, and Bob feels that this is an advantage for someone with a plant they are trying to shop around and put in production. His advice is to find a business partner who feels just as strongly about the plant as you.

“You can work together, and then it’s fun. Because remember - it’s supposed to be fun at some point. I wouldn’t just go to the first person I know. I would shop around. It’s always better to be better informed.”

Contracts

Many nurseries want exclusive sales agreements. “And yes - that means a contract. And yes - that means you have to read the contract. But everything is negotiable. If there’s a clause in there you don’t like, say you want it taken out.” If you have objections to their ‘standard contract’, and they really want the plant, the contract will be written the way you want the contract written. “If they’re just warm on the plant, you’ll find out. It’s an important kind of thing so remember that. It’s your plant.

“There’s fine print. Read it. The fine print may say if someone else puts this plant in culture and offers it to liner catalogs, it won’t pay for it anymore. Some contracts have language like that. Don’t get mad. Take it out of the contract. It might say that at a certain date the sales get cut off. Well keep an eye on the people – make sure they’re selling the plant at that certain date.

“In my contracts, I always say that any sport that occurs in the process, I get first refusal. Now some nurseries may not go for that, some may. But I always put it in my contracts. I get first refusal. That doesn’t mean I take all the green ones. I let someone else sell the green ones. That’s something that you put in. In some cases, I have an inspection clause that I have a right to come look at your stock to make sure it doesn’t have nematodes or doesn’t have virus or it’s growing well. I have access to my plants. That doesn’t mean I have access to your books, but I have access to the plants.”

Royalties

Contracts for royalties run for different time periods with the standard being for two to three years. It works this way because in many cases another nursery will get the plant and put it into production without having to pay the hybridizer royalties. “So even if they get it the first year, they probably won’t have it available for three years. It all sort of works.

It’s a way of getting your exclusive relationship and getting royalties without a patent. Patents are for 20 (years) – this is for two or three.”

Royalties on large numbers of plants from a nursery that produces very large quantities of plants like Walters Gardens are usually less. Royalties are based on actual sales – not the number of plants in the greenhouse. They may have 10,000 plants, but are only able to sell a fraction of that. “Because at some point it all comes down to the people in this room.. you guys make the ultimate selection on this. We’re just trying to guess what you like.”

“Most people pay you based on sales. I actually do something different. I pay you based on production over that time period so it’s up to me to get rid of the plants. If I’m lazy, and don’t do a good job for you, it’s not on you – it’s on me. I pay you when I get the plant which is a little different way of doing things, but the money generally all comes out the same. You get it quicker with me. You have to wait another year or two with other people. It’s easier for me to do it this way, and I don’t have all the stress of worrying about selling the plants... and if I want to sell them for 50 cents then I can sell them for 50 cents. If it turns out that I don’t like it, I can do that.

“Mark Zilis is one of my best friends in the world, and we have done this for 25 to 30 years, and at some point, it becomes a business relationship. He’ll say some plant isn’t doing well for me, and it may break my heart, but it’s a business relationship. You shouldn’t let it wreck your friendship. Just realize if there’s money involved - like with your brother-in-law - it can get weird so don’t be weird about it.”

It’s Your Plant

*“Remember.. it’s your plant – just because you give it to a nursery - it’s not their plant. It’s your plant. If you want to help them market it, if you want to give them suggestions, if you want to call them every week - it’s your plant. They may never take another plant **from** you - but it’s your plant.”*

Being in control is important, but patience is necessary and there is always the risk that things can go wrong in the process. *“Stuff happens. We’re all growing plants here - this isn’t a tool and dye factory.. stuff goes wrong and accidents happen and plants die and things don’t work out. And you have a two year contract, and the plant doesn’t do anything in tissue, and before you know it, the contract’s up and there’s the plants. And it’s too bad.”*

Bob’s plants average eight years from seed to being on the market with some taking 11 or 12 years. To new hybridizers, he said, *“So if you’re just starting hybridizing right now, I suggest that you accelerate your seedlings and step them up in pots. Get them into one-gallons by March. If you get moving, you can save a year or two that way. I don’t do that yet. Maybe when I’m 70, I’ll start doing that - but not yet.”*

“And finally, it’s supposed to be fun. It’s supposed to be fun for everybody. It’s supposed to be fun for me - it’s supposed to be fun for you. My job is to make it fun for the hybridizer. That’s what I try to do. I try to put your plants out there. I put them on the internet, I bring them to conventions. I hype your plant. I make you feel good about it, and it’s fun to see your plant being offered for sale. It’s fun to see it in a lot of other people’s gardens. That’s what I get a kick out of. Seeing that plant that nobody thought they’d like, and they get it, and they take it home, and.. ‘I really like that plant I got from you! I didn’t think I would. And I hated paying \$35 for it! It was an ugly plant.’ So just remember it’s supposed to be fun.”

By Reldon Ramsey



H. 'Smiley Face'
Photo courtesy of
Bob Solberg

2013 'Hosta of the Year'

What would you pick? Why?

Carol Leslie, Longmont, CO:

“I would choose H. ‘Whirlwind’ because of its distinctive shape in the landscape; twisted leaf shape, color distinction, and dependable, vigorous growth.”

Becky Sharpshair, Marshalltown:

H. ‘Rainforest Sunrise’ or H. ‘Gin and Tonic’

Traci Seltz, Badger:

“H. ‘Christmas Tree Gala’. It’s such a reliable stalker, reasonably priced for beginners and produces well. And it’s beautiful and a reliable grower.”

Ron Borwick, Johnston:

“H. ‘Ivory Coast’ – It is the most standout hosta in my garden.”

Trudy Van Wyk, Pella:

“H. ‘Brother Stefan’ is a standout hosta in our gardens.”

Carrie Glessner, Marshalltown:

H. ‘Silver Bay’

Frank and Ellen Glasgow, Indianola:

“H. ‘Regal Splendor’ - Smokey blue accented by a creamy edge; great grower; love its height and lovely flowers on scapes up to 5 feet tall.”

After a quick ‘Google’ search, I discovered what the American Hosta Growers Association has selected for their 2013 ‘Hosta of the Year’. It was named by one of the ROHS members in the responses listed above.

Can you guess what it is?

Winter Scientific Meeting

Glenn Herold:

Trees for the Hosta Garden

What makes a good hosta garden tree?

Root anatomy - Monocots vs. Dicots

- *Dicots have "taproot" system, monocots have "fibrous"
- * In dicots, most feeder roots are in the top 6" of soil
- *Rooting depth depends on soil conditions

"The Vegetation of Wisconsin"

Written by John T. Curtis, published in 1959

Gives insight into the adaptability of tree roots and the tree's suitability for use in the hosta garden

Riverbottom Trees:

Greater proportion of roots at the surface of the soil; more competition for the hostas

Upland Trees:

More suitable; less competition with the hosta roots

Small Trees for the Hosta Garden:

Mature at less than 25 feet

Acer japonicum 'Green Cascade'
Green Cascade Fullmoon Maple

Acer japonicum 'Aconitifolium'
Cutleaf Fullmoon Maple

Acer cissifolium
Ivy-leaved Maple

Acer griseum
Paperbark Maple

Acer maximowiczianum
Nikko Maple

Acer 'White Tigress'
White Tigress Maple

Acer triflorum
Three-flowered Maple

Carpinus caroliniana
Blue Beech; American Hornbeam

Magnolia virginiana
Sweetbay Magnolia

Medium Trees for the Hosta Garden:

Mature between 25 and 40 feet

Ostrya virginiana
Hop Hornbeam

Magnolia 'Butterflies'
Butterflies Magnolia

Sorbus alnifolia
Korean Mountainash

Tall Trees for the Hosta Garden:

Mature over 40 feet

Carya cordiformis
Bitternut Hickory

Fagus grandifolia
American Beech

Ginkgo biloba
Maidenhair Tree

Gymnocladus dioica
Kentucky Coffeetree

Liquidambar styraciflua
American Sweetgum

Liriodendron tulipifera
Tuliptree

Magnolia acuminata
Cucumbertree Magnolia

Quercus alba
White Oak

Quercus bicolor
Swamp White Oak

Quercus macrocarpa
Bur Oak

Quercus muehlenbergii
Chinkapin Oak

Quercus rubra
Red Oak

Ulmus 'Accolade'
Accolade Elm

Ulmus 'Morton Glossy'
Triumph™ Elm

What did you

ENJOY MOST

about gardening/hostas in 2011?

Carrie Glessner: **Not watering early on.**

Becky Sharpshair: **Going to my first tour and joining this group.**

Carol Leslie: **Observations of the development of new hosta purchases is fascinating. It is exciting to watch the growth, expansion of the plant, leaf shape, color/pattern variance.**

Ron Borwick: **Having more time to enjoy gardening.**

Traci Seltz: **Starting Granny T's Garden and meeting so many new garden friends.**

Trudy Van Wyk: **Taking a walk and enjoying the hosta seedlings in our gardens!**

What was the

BIGGEST GARDENING CHALLENGE

you faced this past year?

Ron Borwick: **VOLES**

Kenn Outzen & Dean Koob: **Not enough rain**

Cindy Schnoebelen: **No time to spend in my flowers**

Becky Sharpshair: **Storm clean up**

Carol Leslie: **Always, in our area of Colorado, we face the problem of rocky, clay soil and providing adequate moisture.**

Carrie Glessner: **Fungus**

Trudy Van Wyk: **My time in the garden always seems to go way too fast.**

Traci Seltz: **The slugs in my north bed are killing me!!!**

Winter Scientific Meeting

Jeff Miller:

Hybridizer's Perspective

Jeff Miller, owner of Land of the Giants Hosta Farm in Milton, WI, began by telling his first experience with growing hosta seeds.

"I didn't make a whole lot of crosses – just started growing some seeds. I was just thoroughly intrigued by the genetics of hostas, and what you get from one pod. I had one pod of H. 'Fat Cat', and this is what got me growing. I grew the seeds. I didn't make the cross. 24 seeds. 24 seeds germinated, and I got 24 different looking plants from one pod.

"In my mind, I thought a bee pollinated it and I should have gotten 24 plants that looked exactly the same. Didn't happen so that started my interest in the genetics in hostas, and I started hybridizing hostas to see what I would get. So this is a little bit of my journey."

Several years ago a lady named Terri Meyer asked Jeff for some hosta seeds to grow. After sending her seeds, they discovered that they live just four miles apart. As Terri grew the seeds, 'she kept picking my brain' with questions about seed growing and hybridizing. She didn't have many hostas of her own so Jeff offered to let her come make crosses in his garden.

"I get up at 6 AM to make my crosses every single morning. You're welcome to come make crosses when I do. She was there every single morning." Jeff eventually asked her if she wanted to be his hybridizing partner. *"Great passion! Great interest! Actually it helps me.*

"My passion is giants - I love giant hostas! Most of my crosses are for the biggest of the biggest. Her passion is minis. We kid each other all the time. The first year that we grew seeds I pulled out this pack of seeds and it was like H. 'Key West' x H. 'Itty Bitty Bikini' or something. I thought, 'What the heck kind of cross is this?' It gave great plants. Great seedlings.

"We can try to enhance or put ripples on something, but until you get those seeds and give them time to mature you don't know what you're gonna have and lots of times there's great surprises. Surprises are always wonderful for me."

Before any crosses are made, Jeff and Terri study hosta characteristics in the garden to determine each plant's strengths. *"I'm feeling the leaves, I'm counting the veins, I'm picking the leaves up to see what they look like underneath."* They also utilize *The Hostapedia* and the *Hosta Library* to learn what dominant characteristics each plant can pass on to its offspring. *"Does it pass on round leaves, does it pass on corrugation, does it pass on red? What does it do? So before we put any pollen down at all, we've got a little bit of a game plan of what we want to do."*

During the presentation Jeff showed both his seedlings and some of the plants that he uses in his breeding program. *"I like big – that's H. 'The Hulk' – I love the veining in it. This (H. 'Giantland Skylight Bowl') is one of mine. It's a real powder blue. I used H. 'Skylight' to get the blue and actually that is H. 'Blue Betty Lou' (pod parent). It comes up real cupped, stays blue forever – the H. 'Skylight' blue – just a really nice plant about six years old.*

"H. 'Old Rough House' – love the blue, the corrugation, the size of the leaf, also the mound – the heavy mound, it's not a sparse plant - it's a real full plant.

"In the gardens, we have over 2100 varieties of plants we can play with. All of these plants have a little bit of a different genetic trait to try to put something into the new plants. I like to work with giants. Terri likes minis, but it doesn't mean that growing giants I'm not going to get a mini out of it. Or her growing mini seeds - it doesn't mean she won't get giants out of them. That's the unbelievable part of the genetics. We do a lot of streaked plants, but we also do crosses with solids. Lots of pollen and pod parents.

"H. 'Marilyn Monroe' – beautiful leaf, white undersides, red pets. Gorgeous. Flowers really late for us in Wisconsin so if you use H. 'Marilyn Monroe' you've either got to save the

pollen for the next year or pull the plant in and start it early so that it flowers in time to be able to use it."

"Do you do much with forcing?"

"Mostly the later ones because in Wisconsin the seeds have got to ripen for that two month period, and we just can't get it done unless we force them.

"H. 'Queen of the Seas' – great plant, puts some nice ripples on seedlings. It's fun doing this – you go through the garden and say yellows or blues or unruly.. that's H. 'Neat and Tidy' there. To pick the pollen that we want, once we get the plants down that we want to get our pollen from then we study. Study the plant, study the genetics, study the dominant traits."

"Every year I do tests." This past year's test involved the Stegeman's H. 'Skylight' to determine if the f¹ seedlings differ from the pod parent or are virtually identical. He used two H. 'Skylight' plants. One he allowed to be open pollinated. The other he crossed with pollen from H. *montana macrophylla* and H. 'Niagara Falls' to see if ripples can be added and if size can be altered in the f¹ generation. He estimates that he has 2000 H. 'Skylight' seedlings that he will upcup and then plant out in seedling beds.

Olga Petryszyn commented, *"I found with H. 'Skylight' what's really dominant in the shape of that plant - the leaf form. I'm having a hard time 'breaking' the leaf form. Great color."*

"That's what I'm trying to do with growing this many and doing that many crosses. It's a time thing. It's a couple three years. I've got the room to plant them out and see what happens." If he isn't successful, Jeff plans to cross an f¹ seedling back to the pollen parent to break the dominance and get the desired size and ripples.

"At the point of time we know exactly what we are going to do, we have everything written down – what is going to flower, when it's going to flower, what we're going to use (for pollen). Pod parents are not created equal. Some give great seeds, lots of seeds – some don't."

Jeff showed photos and shared his observations of some of the streaked breeders that he uses. *"That's H. 'Breeder's Love' – it's a streaked H. 'Love Pat'. H. 'Justice' – for size, cream streaking - a beautiful plant out of H. 'Elatior'.*

"I found a streaked H. 'Azure Snow'. I used this thing for years - grew the seeds - never got a streaked plant from it. A couple of years ago for some reason I planted 20 of the seedlings out. The following year every one of those 20 were streaked - never showed anything that first year.

"H. 'Galaxy' - yellow streaking and round leaves. H. 'Galaxy' is not a great seed setter, but I love the seedlings from it. H. 'Rosedale Misty Magic' - real thin leaf, great for putting yellow in a plant, and you can put substance into the seedlings.

"This is a seedling of Rod Kuenster's, a good friend of mine. Rod is actually one of the people that got me into hybridizing and growing seeds. This plant I called H. 'Rod Kuenster'. It is a great mom plant – it gives unbelievable seedlings!

"Some hostas are really hard to pollinate. This is H. 'Tears of Joy' – the yellow you see on that is the anthers, the pollen. There is no flower. You're trying to pull this away without touching any pollen on the inside. Really weird! I've never seen it before. It doesn't have the petals - it's just got the male and female parts."

Jeff and Terri make about 5000 crosses each year. They are dedicated to accurately recording the pollen used on each flower. They use string tags, and Jeff says, *"It's a little bit of a pain unraveling the strings when you're doing it, but if you just take some time, it's not that terrible."*

Scapes are harvested when the first pods are older than two months since the last pods formed also need two months to mature. *"We wait until the pods are just starting to open."* They are placed in brown paper bags labeled with the mother plant and stored on Jeff's boat to finish drying. *"I'm too busy. I can't fish anymore."*

Seed cleaning is a learning process. *“It’s really important to make sure that ‘this is the envelope, this is the seed, this is the cross’. Without that information if you’re going to an f² or an f³ to try to develop something more, you’re struggling a little bit.”*

Jeff planted his 2011 seeds on December 1st - later than his usual starting date - for several reasons. When seeds were started earlier, the seedlings grew too big before the temperature was warm enough to move them outside. *“At the end I’ve got 5000 seedlings – there’s so much humidity in my basement. Just trying to keep these things alive.. It’s a whole lot more like work instead of fun so I started them later.”*

“The first year I grew seedlings I ended up keeping 1000, and out of that I’ve kept 50 to this point. Nothing’s named yet.”

After the seeds are cleaned, packaged, and labeled, they go into the freezer. Jeff uses 7 oz. plastic cups (with three drainage holes) for planting because it works well to keep the crosses separated, and the cups fit perfectly into 32-cell trays. He has tried planting directly into the cells, but found it difficult to keep the seeds in the right cells. Crosses are written on the cups they are planted in. He uses Grower’s Select Seed Germinating Mix that has been sterilized with boiling water. *“I’ve got friends that don’t do anything, and they have great luck, too. I do it just to be cautious.”*

The trays are placed on heating pads at 78°F in the dark for 10 days. *“The heat really helps the germination process.”* When seeds begin germinating, they go under lights. Not all seeds are viable or germinate well. *“Even if I can only get one seedling out of that cross, I’m happy.”* Jeff culls as he upcups. Seedlings are upcupped into individual 7 oz. cups with Grower’s Select Professional Growers Mix.

To make watering and misting the seedlings easier, Jeff made a watering tool from easy-to-find parts that can connect to any sink or garden hose. It has significantly cut down the time he spends watering. He bottom waters and fertilizes with half-strength Scotts® Miracle-Gro® Tomato Fertilizer each watering. The fertilizer is mixed in a 35 gallon trash can with a submersible garden pump. The inside of

the trash can is marked in 5 gallon increments. He only mixes the amount of fertilizer needed each watering when the seedlings are small.

“At this point 90% are gone – they’re in the garbage. You just can’t grow them all. You’re really trying for the different – the best of the best.” If he likes the cross with a streaked pod parent, but doesn’t get any streaked seedlings he will keep a couple of the blue or yellow seedlings. *“I try to keep all my yellows.”*

Showing a picture of the huge number of first year seedlings he’s kept after culling, Jeff said, *“My partner has just as many seedlings that she keeps. We grow a lot of seeds and keep a lot of seedlings.”*

Showing *H. ‘Blue Mouse Ears’* seedlings, Jeff commented, *“I use *H. ‘Blue Mouse Ears’* a lot. The flower is very delicate. You can’t hardly touch it, and it falls off in your hand. So you make the cross, and to put the tag on it, you’ve got to be just SO gentle with cinching the tag a little bit (or) that flower will fall off. The seedlings from *H. ‘Blue Mouse Ears’* or the *H. ‘Blue Mouse Ears’* pollen is amazing. Thick substance on anything you put to it.”*

Talking about the genetics Jeff showed a two year old *H. ‘Blue Angel’* seedling next to a quarter. *“You see the quarter. You see the size. And to me this is what’s intriguing about growing hosta seeds. This is the genetic thing that just interests me SO much. How can *H. ‘Blue Angel’* being just an unbelievable great big huge blue plant give us something like this? Land of the Giants.”*

Showing several pictures of the subtly streaked *H. ‘Azure Snow’* seedlings he’d mentioned earlier, Jeff remarked, *“I put them in the ground and there was no streaking on them at all, and they were pretty good-sized when I put them in there. You can see the dark green and the light green. If I had not kept those seedlings, I would have never known that that did that.”*

*“This is a seedling that I just started noticing this year. It’s just a real minty green and that is a cross of *H. ‘Justice’* x *H. ‘Nancy Gill’*. There’s no streaking in it, but REAL white backs.”*

In his seedling beds, he plants seedlings in rows of the same pod parent. A label with the pollen parent is placed in the roots. Later as plants are culled from the row, Jeff removes the pollen parent label and notes in his records that he wasn't happy with the results of the cross.

"On the culling process, what I've noticed - that between the third and fourth years, the characteristics really come into play on plants. I want to give them enough time, but.. I need the garden space for other things so when it's time to cull, I cull. If it's got some merit, I keep it."

Jeff showed a hosta that he had seen at the Stegeman's. *"Every single leaf has this palmated (look). They said when it opened it tore, but actually that's veining going up, and I would love to use this and cross it to itself. To me if you could get a hosta leaf that was palmated, that would be really, really neat."* Dave Stegeman said, *"We'll see if it does it again this year."* *"Exactly."*

"That one is actually a cross of H. 'Fickle Blue Genes' x H. 'U.S. Grant' that's starting to get the H. 'U.S. Grant' leaf on it. Here's a H. 'Spilt Milk' seedling. It has unbelievable substance. I think I grew about 5000 seeds for one, but it's a nice plant. One of the seedlings - the ripples are super thick. Just look at the ripples in this thing. Those ripples are 'this' (3") deep.

"Right now after all the culling, I've probably got about 11,000 seedlings in my garden. Nothing is named or anything. You get a little partial to them when they're your 'babies'.

"I do want to get them out on the market. I want to make sure it's worthy. It's credible. I don't want to just put anything out there. So I really try to take the personality out of a plant and look and critique it as a garden worthy plant. Bob talked a lot about that today which was an unbelievable talk.

"About the three-year stage, I start culling really heavy, and I just keep a couple of the best of each cross to see which one is going to get me what I want."

As he showed a picture of himself with hybridizing friends from the Hosta Seed Growers Forum, Jeff said, *"The best thing about hybridizing is the great people you get to meet. In the hybridizers, we're a family. We all strive to do the same thing, we help each other out. In the olden days, I heard that everybody kept all the secrets to themselves, they didn't talk a lot. We want our secrets out. We want to be able to help each other. And in turn that helps me and everybody else too. The greatest thing is the people. The people are UNbelievable!"*

Questions and Answers

"If you are going to choose your pollen and your pod parents beforehand, and you're going for 'different' what would you use as your criteria for different - what you're trying to establish?"

"It really depends if I'm crossing into one of my seedlings or if I'm crossing to a named plant. I take a look the named plant or my seedling and say, 'What can I do to enhance this plant? What can I do to further it more than what it is?' And then I take the characteristics - say if I want to put size on it or ripples on it or corrugation on it, and then I'll take the pollen parent that will best suit that - in my mind anyway - to give me my goal. Doesn't always work - sometimes it does. Really I'm not an expert at this - I just love it! I've just got passion for it."

"Would you do multiple same crosses (with the same pollen) on the same plant as opposed to a shotgun approach?"

"No. Multiple crosses. Once we get our game plan done, there's no shotgun - it is specific crosses, and you don't know if the cross is going to take. You don't know if it's hot that day if it's gonna fall off. You do multiple. With the amount of plants I have, I've got the ability to make one whole scape one cross if that's what I choose to do. When I first did it, it was a little bit shotgun - go around and pollinate. It's not really scientific - I'm not really good at science with hostas because I can't figure them out. I wish I could."

“Out of your 5000 crosses – how many different pod parents do you have?”

“Usually out of 5000 crosses I’ll have 35 pollen donors. There are ‘several’ pod parents. If I’ve got a row of H. ‘Ice Age Trail’ there, I’ll use the row. ‘This plant’s gonna have H. ‘Key West’ on it’ - to give me enough seeds so I can make an accurate judgment of what I’m trying to grow.”

“What’s the minimum number of repeats or reps you do for the same cross?”

“It really depends if I like the cross. Usually once I start I’ll use half a scape (for one cross), and then I’ll go to something else. If we’ve got really hot weather, I’m out there pollinating and they all fall off.. but I still try. Some plants do keep the pod when it gets hot, but you know some don’t.”

Olga Petryszyn: “How do you control your crosses from contamination?”

“I try to beat the bees – that’s why you get up at that time of the morning. You pull the flower off, you make your cross, you tag it. That’s one thing about the H. ‘Blue Mouse Ears’ – you can’t pull the flower petals off H. ‘Blue Mouse Ears’.”

Olga Petryszyn: “Are you doing that the morning of the cross?”

“The morning of the cross. I know some people go out and do it the night before – get everything ready the night before for the cross. I don’t do that. I’ve got other things going on in my life that takes me away from that a little bit. My morning is my hybridizing time. With both of us doing it, we’re out there about three, three and a half hours a day.”

Kim Larsen: “You say that one of your goals is big, but do you have any other goals? Is it big blues, big golds, big plants with ruffled edges?”

“I’ve got all sorts of goals. In my mind, I love large, but give me large with rippled leaves, give me large with round leaves, give me large with corrugation. Yellow. I like the HUGE plants. I’ll breed specifically for that, but I’ll put a lot of different twists on it so I’ve got different plants. Say with 5000 crosses, I’m really hoping out of all the seeds I grow I can

have ten plants that don’t look like anything else. Out of everything I’m keeping if I can have ten, I’d be really happy. But I don’t just want a so-so plant. I want a plant that people say ‘WOW! That’s nice.’ I agree that there’s a lot of so-so plants out there, there’s a lot plants that to me maybe aren’t garden worthy. I’m not trying to cut anything, but for me personally - if I want my name on it - I want it to be a plant that I can be really proud of it no matter where I see it in anybody’s garden. So that’s what I’m trying to achieve is the different.

“I showed a picture of a five year old seedling – really nice.. big – it’s a huge leaf – yellow edge, but it looks like so much other out there. I’m gonna to cull it this year. It does NOTHING up and beyond - it’s a nice plant, but it’s not that next level ‘WOW!’ And that’s what I’m trying for.”

Bob Solberg: “If you’re breeding for large, you go back to the species - all the really large species are that H. montana group – however you want to break it up, the H. sieboldiana – they’re all early flowering plants. So are you limited to sort of those kinds of parents? Are you able to go and use some of the late flowering things, and then make them big again?”

“I do have some tests going on that. I have been saving some pollen - using the pollen in my program, freezing the pollen. I’ve got these dental tip things I can screw on this handle. It’s already full of pollen that I keep in a centrifuge in the freezer. You can pull out and make your crosses with later flowering stuff on the earlier flowering stuff to try to get some size to some of the red-petioled stuff. I’ve got a couple of things going that to me is inviting. I don’t know what it’s going to turn out to be, but to me it’s exciting.”

Bob Solberg: “Have you gotten them back to four foot or five foot size? Or do you end up with medium-large?”

“No. I’m not there yet. Someday I hope, but again - I’ve been at this six years. I do everything to an extreme. People that know me... I get involved with it, I study it, and I go. I’ve got some that I’ve got possibilities on.. but they’re just not old enough for me to know..

what they're gonna do. This year I'm either going to take and cross it back to it or pitch it – some of those I did like that to the f².

“It's exciting! To me growing hosta seeds - you know you don't have to hybridize. Go out and pick a scape, start some seeds in your basement. A little bit of green in the basement – it's just wonderful in the wintertime. But when you do the crosses, and you are really trying for something and you watch this process happen, and all of a sudden you go in the garden and - ‘OH MY GOSH!’ - there's this absolutely gorgeous plant, and YOU created it. It makes your heart proud. And other people like it - it gives you a warm fuzzy. To me, that's what I like.”

“Since you're breeding for big ones what are your favorites ones that you use in your breeding program for giant size?”

“It really depends if I'm going for an edge or not for an edge. The H. montana family.. H. ‘Elatior’ I use a lot. H. ‘Elatior’s genes are real dominant. Gives you really nice ‘babies’. We've got a joke between us – I say they're my ‘babies’ because of all the passion and time I take to them and she (Trudy Van Wyk) says they're her seedlings. We joke a little bit back and forth.

“Give me some size. H. ‘Powder Blue’ is to me a great plant – beautiful, beautiful powder blue, corrugation, large. I've been doing a lot with H. ‘Powder Blue’. Olga's plants I use EVERY year. Olga, I look at your plants and go, ‘What I can do to this plant to enhance it?’ because they're so gorgeous anyway. But I still play with the genes. I still want to see what I can get. It's a trial and error thing - it's a passion - there's a lot of time invested in it to see what you're gonna get.

“I've got a lot of seedlings. A lot of people say there's a lot out there that are marketable. For me it's a passion, and yea - someday I want to get them out on the market, but making that step - you know.. that's a toughie for me.”

“What controls fruit flies?”

“Nematodes. I've used everything and last year my fruit flies in my basement were horrid. You couldn't hardly breathe down

there. I tried Lysol® on the bottom of the pans. I actually got some flying fruit fly killer spray it was so bad. I've tried sticky papers. I started using the beneficial nematodes, and I don't have any fruit flies. It does a great job.” Jeff suggested looking for beneficial nematode sources online.

“Question in growing for large size hostas in the culling process, you don't know the ultimate size of the hosta until three to five years. How do you cull? If it's not a streaked plant, if it's not red pets - so it's green or blue – how do you cull for size? Do you cull based on vigor? Hoping the vigor is going to give you bigger size. Do you grow every single seedling hoping that will sort them out eventually?”

“Vigor don't necessarily mean bigger. What I do when I'm going bigger, I've also got other characteristics I'm looking for. Rippled, corrugation, whatever... I'll plant out.. say I'll keep 20 of the best. Say I've grown 300 seeds of a certain cross – at the end, I'll keep 20 of the best, and I'll line them out. Those 20 of the best after a couple of years, I'm gonna keep a couple of them and throw the rest away. Out of those couple, I'm hoping that one will give me what I want. The problem with that is when you're making your crosses, you've got 20 of them there, and you've got all sorts of different things going on then you're keeping a lot more than two.

“It's also so important when you're planting your seedlings – you've got to plant them in some good stuff. You're not gonna get a big hosta without amending the soil, and making sure there's moisture there and giving the conditions they've got to have to get the size that you want.

“I do have right now about two trays - or three trays - of minis going. Don't TELL anybody! This is Land of the Giants, but I do have several trays of minis going this year and that's a little bit exciting too. It's just a different twist that I haven't tried and played with yet.

“On the solids - streaked plants it's easy - if it's not streaked, you cull it - but if you like the cross you keep a couple of the solids. On the

solids, it's harder for me to cull. When I've got a cup that are one leaf to two leaf, and I know because of size and because of the space I've got I can keep 20 of them, I'm looking for different. Out of this cup – what leaf is different? What's different color, leaf shape, a bump on it - and then I go for bigger. Everything else gets pitched. I just can't grow them all on to that ultimate goal."

Dave Stegeman: "Didn't you tell me once that you got some break in the H. 'Skylight' leaf shape in the f²?"

"Yes. The test is if I can get it on the f¹ right now. And that's why I'm lining them out. It's gonna be a few years away, but H. 'Skylight's such a DOMINANT plant. I'd love to try to break that."

"Is it dominant with the pollen as well or just the pod?"

"The pollen's not as dominant as the pod. I've got some nice.. you've seen that H. 'Giantland Skylight Bowl' (shown earlier) – that was from pollen."

"So it pushes the blue through the pollen, but it's not as dominant on the leaf shape?"

"Right. And I'm wondering if the cupping came from the H. 'Skylight'. H. 'Blue Betty Lou' – it's a gorgeous plant anyway with the corrugation, but that blue on 'Skylight Bowl' - August - it's bright blue. And it's in the sun."

By Reldon Ramsey



Building a Dream in the Country has t-shirts available for \$10 as part of fundraising efforts for the Spece family

What New Garden Projects Did You Start Last Year?

Traci Seltz:

Granny T's Garden - that was enough: adding the sidewalk to the sales area, building the sales area, putting up and FILLING the large shaded hoop holding bed, putting together my "office" and potting area.

Cindy Schnoebelen:

Mowing

Kenn Outzen & Dean Koob:

Took out one of the ponds; put in a paver patio and raised planter; redid part of fencing; rearranged lots of plants.

Carol Leslie:

We developed a new perennial bed on the north exposure of a large pine tree, planting hosta, heuchera, brunnera and other shade plants.

Ron Borwick:

New areas for potted hostas.

Becky Sharpshair:

Adding more beds to buy more hostas.

Carrie Glessner:

Cleanup after the storm, rethinking shade structures.

Trudy Van Wyk:

Bruce and I built a bridge across a very low spot in our garden which every year stayed very wet. Looking forward to this year's project – landscaping around the new bridge area.

Winter Scientific Meeting

Roy Klehm:

My Favorite Garden Plants

Trident Maple

Acer triflorum

Manchurian Maple

Acer tegmentosum **'White Tigress'**

False Indigo

Baptisa **'Midnight Prairieblues'**

Baptisa **'Starlite Prairieblues'**

Baptisa **'Twilite Prairieblues'**

Baptisa **'Carolina Moonlight'**

Heartleaf Brunnera

Brunnera macrophylla

'Dawsons White'

Brunnera macrophylla

'Jack Frost'

Brunnera macrophylla

'Diane's Gold'

Brunnera macrophylla

'Emerald Mist'

Brunnera macrophylla

'Mr Morse'

Snowdrops

Calanthus nivalis

Glory of the Snow

Chionodoxa

Clematis

Clematis **'Blue Angel'**

Clematis **'Matka Ursala Ledochowska'**

Clematis **'Warsaw Nike'**

Clematis **'Cardinal Wyszynski'**

Clematis **'General Sikorski'**

Clematis texensis **'Princess Diana'**

Clematis integrifolia **'Rouguchi'**

Cornelian Cherry Dogwood

Cornus mas **'Golden Glory'**

Cornus mas **'Dripping Cherries'**

Cornus mas **'Flava'**

Cornus mas **'Variegata'**

Pagoda Dogwood

Cornus alternifolia **Gold Bullion™**

Cornus alternifolia **'Golden Shadows'**

Lily of the Valley

Convallaria majalis **'Flore Plena'**

Convallaria majalis **'Rosea'**

Convallaria majalis **'Albostriata'**

Convallaria majalis **'Fortins Giant'**

Convallaria majalis **'Hardwick Hall'**

Winter Aconite

Eranthis hyemalis

Trout Lily

Erythronium **'Pagoda'**

European Beech

Fagus sylvatica **'Purple Fountain'**

Fagus sylvatica **'Weeping Green'**

Fagus sylvatica **'Aurea Pendula'**

Fagus sylvatica **'Dawyck Purple'**

Fagus sylvatica **'Dawyck Gold'**

Fagus sylvatica **'Tricolor'**

Fagus sylvatica **'Rivers Purple'**

Maidenhair Tree

Ginkgo biloba **'Princeton Sentry'**

Ginkgo biloba **'Summer Rainbow'**

Ginkgo biloba **'Majestic Butterfly'**

Ginkgo biloba **'Mariken'**

Ginkgo biloba **'Gnome'**

Ginkgo biloba **'Spring Grove'**

Christmas Rose

Helleborus niger

Lenten Rose

Helleborus orientalis

Climbing Hydrangea
Hydrangea petiolaris
Hydrangea petiolaris '**Mirranda**'

Magnolia
Magnolia x '**Butterflies**'
Magnolia x '**Gold Star**'
Magnolia x '**Marilyn**'
Magnolia x '**Raspberry Glow**'
Magnolia x '**Jean Louise**'
Magnolia stellata '**Kikuzaki**'

Flowering Crabapple
Malus '**Cranberry Lace**'
Malus '**Lullaby**'
Malus '**Red Peacock**'
Malus '**Satin Clouds**'

Virginia Bluebells
Mertensia virginica

Herbaceous Peony
Peony '**Cameo Lullaby**'
Peony '**Fragrant Bouquet**'
Peony '**Green Halo**'
Peony '**He's My Star**'
Peony '**Pink Hawaiian Coral**'

Weeping White Spruce
Picea glauca '**Pendula**'
Picea pungens '**Blue Totem**'
Picea pungens '**Gebelles Golden Spring**'

Twisted White Pine
Pinus strobus '**Mini Twists**'

Weeping White Pine
Pinus strobus '**Angel Falls**'
Pinus strobus '**Pendula**'

Quaking Aspen
Populus tremuloides

Striped Squill
Puschkinia

Rock Garden Peony
Rock Garden Peony '**Elfin Beauty**'
Rock Garden Peony '**Kinda Cute**'
Rock Garden Peony '**Little Red Gem**'

Siberian Squill
Scilla siberica

French Hybrid Lilac
Syringa vulgaris '**Arch McKean**'
Syringa vulgaris '**Atheline Wilbur**'

Hybrid Lilac
Syringa hyaciniflora '**Blanche Sweet**'
Syringa vulgaris '**Fiala Remembrance**'
Syringa vulgaris '**Little Boy Blue**'

Pekin Lilac
Syringa pekinensis **Beijing Gold®**

Tree Peony
Tree Peony '**Hephestos**'
Tree Peony '**Nike**'
Tree Peony '**Leda**'
Tree Peony '**Zephyrus**'
Tree Peony '**Persephone**'
Tree Peony '**Aphrodite**'

Species Tulip
Tulipa tarda

**Thank you,
Roy Klehm and Staffs**

[Song Sparrow Farm and Nursery](#)

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Winter Scientific Meeting

Mark Zilis:

Tissue Culture – Past, Present, and Future

This year Mark Zilis diverged from his WSM topic of the last 12 years – “Hostas of Distinction” – to talk about plant tissue culture. *“It’s something that I’ve been involved with for my whole horticultural career. I first learned about plant tissue culture when I was an undergrad at the University of Illinois in my plant propagation class. I remember being interested in it, but I thought you can’t be too clean and successful at plant tissue culture.”*

Mark studied the embryo dormancy of viburnums and witch hazels in grad school in January of 1976. His main professor, Martin Meyer, suggested that he try growing them in tissue culture. *“I learned sterile technique, I learned how to mix media, and I learned some of the basics of tissue culture at that time.”*

After finishing grad school in 1977, Mark went to work for Walters Gardens running their tissue culture lab. In 1981, he and a college friend started their own business and a tissue culture lab was a small part of it. The company was divided in 1992 and Mark took the tissue culture and hosta portions of the business 60 miles west to a more affordable location in Rochelle, IL. *“I have been involved with tissue culture on a daily basis ever since that time.”*

“Over the years.. I’ve either worked in or owned eight different tissue culture labs. They ranged from small rooms in the basement to fairly large buildings.”

What is Plant Tissue Culture?

In terms of hosta propagation, this is Mark’s simple definition: *“Tissue culture is an aseptic technique used on a small scale on fine media for the purpose of the rapid multiplication and the production of plants.”*

Tissue culture is also referred to as micropropagation which is somewhat more accurate because the propagation is on a very small scale. *“In the common vernacular it’s*

sometimes called cloning.” Propagating from cuttings is also cloning. Meristemming is another term used for tissue culture.

Thousands of types of plants have been tissue cultured. Some of the first major groups to be propagated commercially in horticulture were orchids, tropical foliage plants, and ferns.

After his early work with witch hazels and viburnums, Mark has attempted propagation with approximately 100 other trees and shrubs over the years along with herbaceous perennials - hostas, daylilies, lilies, irises, hellebores, pulmonarias, and many others.

“I think I’ve worked with at least 300 different genera of perennials in tissue culture over the last 30 years. Some of them are successful and some of them aren’t.”

Basic Terminology

In vitro: ‘under glass’; inside a test tube.

Explant: ex is Latin for ‘out of’; the starting material; a shoot tip, flower bud or a piece of leaf.

Meristem: inner core of tissue in the shoot tip.

Media: what the plants are grown on; usually an agar-based solution.

Auxins/Cytokinins: plant growth regulators put in media to form roots or shoots.

Exo Shoot proliferation is what most commercial tissue culture labs practice.

Plantlets are the tiny finished plants. Once roots have been developed they can be transplanted.

Stages

Sometimes tissue culture is referred to as Stages 1, 2, 3, and 4.

1) Explant stage

2) Multiplication stage

3) Rooting stage

4) Stage when plants are acclimated to a greenhouse environment

Everything done in the tissue culture process is theoretically sterile. All work surfaces are free of bacteria and fungi. “Sterilization is a process we go through to get plants free of pathogens. Before we put plants in culture, all of the tools and equipment we use are sterilized.”

Test tubes are used for plant multiplication and jars for rooting. Hostas at this stage can tolerate 68-72° F, but Hellebores require 60 – 62°F.

Fluorescent light bulbs are cool white or a combination of cool white and warm white. Lights are kept on for an average of 18 hours per day. Tissue culture plants don't respire like plants growing outdoors and don't need a rest period. Giving the plants less light slows down growth. If the lab is under pressure to produce a certain plant faster, lights are left on for a longer period of time. *"You can have lights on for 24 hours a day in a tissue culture lab. What will happen is the plants just grow faster. The only problem then is you might have a heat build-up in the lab."*

Work Stations

The main lab at Q & Z has several work stations where people cut plants on a daily basis. Each work station has a Laminar Flow hood which decontaminates 99.99% of all the particles in the air through its HEPA filter.

Each hood costs over \$7000. To save money, they have built their own units by building a box around the filter on top of the table with a screen in front of the HEPA filter. A fan on top draws air in. Additional boxes were built surrounding the fan and the lights, and all surfaces are sealed off. Mark added that one advantage of building their own boxes is that the cause of any problem can be determined quickly.

Everything under the Laminar Flow hood has been sterilized. All tools have been sterilized in the autoclave and sprayed with alcohol, and all surfaces have been cleaned with bleach before any work occurs.

Before touching plant tissue, all tools are placed in a Bask incinerator at 1500°F for five seconds and then dipped in water. Any living material is killed within five seconds.

Some labs require workers to wear lab coats and hairnets, but Mark has never done that at his lab. His workers wear clean, but comfortable clothes so they can sit for 8-10 hours each day. *"I think it's very important for them to feel comfortable when they're working."* Hands have to be very clean so they

scrub down like a surgeon and wear plastic gloves which must be cleaned as well. *"That's an essential process of tissue culture work."*

Q & Z doesn't use any pre-mixed tissue culture media. Besides saving money Mark has found that they have better results using their own formulations of solutions.

Mark estimates their old PH meter has measured 10,000 litres of media, but it has been replaced by a new digital PH meter.

Several autoclaves sterilize equipment – all test tubes, jars, tools and water. Over the years they have gone through a number of autoclaves. Mark said that he's fortunate to have his brother-in-law (who can fix anything – especially autoclaves) managing his business.

Everything used in the tissue culture process has to be washed thoroughly.

Getting a Plant Ready to Tissue Culture

All that is needed to tissue culture plants with above ground meristems like chrysanthemums or asters is a shoot tip or several leaves that have been removed and sterilized in bleach. Plants with underground meristems like hostas, iris, and daylilies must be cleaned differently because the soil surrounding the crown may contain bacteria or fungi. Several stages of cleaning are required to achieve a sterile culture.

Checking for viruses is a critical step in the process. Ten years ago very few tissue culture labs checked for viruses. Then viruses like HVX were discovered, and now all plant materials are virus tested before going into culture. Sometimes Mark sees something in a plant and doesn't believe the negative results he receives from the tests so he re-tests again and again. *"One time I think I tested something 123 times before I was assured that we had a clean product."*

When stock plants are used, only half of the plant goes into tissue culture. The other half is repotted and grown on for future use. The half being used is 'whittled down'.

"Anything that we use, we sterilize. These have been sterilized in bleach and alcohol. We're not worried about passing viruses because everything has been virus tested, but

we're more worried about fungi and bacteria. There are a lot of hostas that are infected with different types of bacteria so we want to be sure that we're clean."

When working on more than one cultivar at a work station in one day, all surfaces are cleaned again and new tools are used. *"We go through a lot of tools, but we want to be assured that it's a clean process."*

The foliage and most of the root material are removed first in the greenhouse before going to the lab. *"We're trying to get down to inner core tissue. We keep hacking away at it until we get to a point where we have almost no root tissue – just a crown and several buds. This has been washed over and over again and ready to be brought into the lab."*

"At this point if the plant is in the lab and still has dirt on it then someone wasn't doing their job properly." Mark has several people who perform this part of the cleaning process and dirt is never an issue. Once the plant is brought into the lab it's washed again approximately a dozen times.

The whittling down continues until all the outer tissue and any remnant of roots are removed. All that remains is the inner core tissue 'that's not seen the outside world'. Theoretically, at this point, the plant has the greatest chance to be sterile.

This is also the stage that any hosta with nematodes can be made nematode-free because the nematodes are not present in the inner core tissue.

The tiny pieces of plant tissue are next put under the Laminar Flow hood and sterilized in a 10% bleach solution for roughly 15 minutes. The bleach is drained and the tissue is rinsed in water three times before being put into a test tube with multiplying solution.

Cost of Tissue Culture

"Incidentally, if you're wondering what is the cost to put a plant into tissue culture, I estimate with labor and everything it costs about \$500 per plant. So any time you want to put a plant in tissue culture you have a flat \$500 cost."

Multiplication and Rooting

"Sometimes despite all your efforts you get a bacterial contamination. There are some hostas that I've tried many times, and you just cannot free them of the bacteria." With fast growing bacteria there is no hope, but other bacterias are slower growing and can be treated with antibiotics. *"A better choice is to treat the stock plant with antibiotics over a long period of time before you ever try to culture."*

"I would say we have about a 90% success rate of getting clean cultures established or living cultures." Not all tissue culture failures are due to contamination. The bleaching process can kill the tissue. *"The bleach will kill off the outer layers of tissue so that all that's left there is the inner core that is theoretically clean tissue."*

The single shoot develops and the growth regulators produce a mass of shoots. *"Basically you're doing division like you would in your garden – just on a very small, sterile scale."* Making vertical cuts, some shoots are re-multiplied and some are rooted using canning jars. Mark feels that buying supplies from a store is more economical than buying from a tissue culture supply house. *"I believe in simplicity in the tissue culture process."*

Shoots are put into a rooting media that contains a low level of auxin and brought into the growing room. *"After about three weeks they have a nice little mass of roots. The tops are pretty big too."* Plantlets are then ready to be transplanted into the greenhouse.

Sorting and Transplanting

Showing pictures of *H. 'Sparkle'*, a streaked cultivar Mark brought back from Japan several years ago, he commented, *"You see there's some variability in foliage color and what we do – we sort plants. That's another expense besides the virus testing and the explant work – the sorting process. We sort these six times before we ever send a plant out to a customer."*

*"We sort before we put the plant into tissue culture, we sort once we get the plant in culture. We try to eliminate all the off-type plants early in the process. *H. 'Sparkle'* is a little bit of a challenge. Any streaked hosta is gonna be a challenge. That's why they're more expensive. You may only get a 20% true rate –*

for every five plants you might only produce one that's true."

All transplanting is done in the greenhouse. Plantlets are transported in plastic bags and are ready to be planted in soil mix in 96 cell flats. Plants are somewhat wilted at this point and are 'dibbled' in with a small lab tool. The flats are placed on a mist bench with a biotherm unit underneath and put under mist. The time of year, the type of plant, and the condition of the plant determine the amount of mist used. Less misting is done in winter than summer. In the summer, 60% shade cloth goes over the greenhouse and also over the mist bench. *"What you're trying to get them to do is produce their own root hairs so they can absorb water and stand on their own."*

"We are also constantly looking for sports. We have very good employees who are always searching for new sports." A reversed sport of *H. 'Cracker Crumbs'* was given the name suggested by Jack Barta – *H. 'Cracker Jack'* – and is now registered. "Great name!"

Once plants are fully grown they are ready to be shipped. Q & Z has two main product sizes – flats of 96 'liners' and 4" pots shipped 18 per flat. Plants are shipped year round although not as much product is shipped in December and January. *"Used to be we only shipped from March to September."*

History of Tissue Culture

"Who thought up the idea of plant tissue culture?" A German botanist named Gottlieb Haberlandt is credited with the idea of tissue culture. In his paper published in 1902, he theorized that every single cell of a plant – if separated and grown in a nutrient solution – should be able to form a whole new plant. It was called the totipotency theory. He didn't have success with his experiment using the 'hair' cells of *tradescantia* and *lamium*, but his idea spurred interest around the world.

In 1934, modern tissue culture pioneer, Philip White developed the sterile technique used to eliminate fungal and bacterial problems. More interest was generated in 1949 when a Cornell University scientist produced a *phalaenopsis* orchid in tissue culture from a flower bud using a very simple growing media. French scientist,

Georges Morel, was an orchid collector as well as a botanist who wanted to free his orchids of virus. In 1960, he put orchid meristems in tissue culture media and achieved virus-free orchid plants. Others began to see the possibility of commercial applications for the process beyond virus elimination.

Plant Growth Regulators

Auxins used in the 1920s and 1930s were naturally occurring substances. Synthetic auxins are used today. Auxins will form either roots on plants or callus tissue. Cytokinins are used to promote cell division in plant roots and shoots. Folke Skoog discovered the effects they produce in the 1940s at the University of Wisconsin. In the 1960s and into the 1970s, it was found that ratios between auxins and cytokinins in media are critical to propagating plants in tissue culture. Most media have a combination of the two.

"In 1962, Toshio Murashige, at the University of Wisconsin, published the seminal work for tissue culture media. It described and explained a media that would allow plants to grow endlessly without any nutrient deficiencies developing. It is called the MS high salt medium and every other media in use since then has been developed from it." Mark estimates it is used by 95% of those involved in tissue culture today.

Mark has had 34 years of experience growing hostas in tissue culture and has found the ratio of cytokinins to auxins is the key. He has discovered that ratios of the two exist to achieve optimal growth for all hosta cultivars.

Mark's professor at the University of Illinois, Martin Meyer, was one of the first people in the world to tissue culture herbaceous perennials including daylilies and a few hostas – *H. 'Helen Doriot'* and *H. 'Frances Williams'*. The research Meyer conducted was funded by Klehm Nursery which, at the time, was in its original Champaign, IL area location. *"I think if it wasn't for Roy getting Martin Meyer to work on herbaceous perennials, we might not be in the position we are today."*

Meyer used shoots or flower buds to develop callus tissue and then multiplied it in a low cytokinin/high auxin ratio. Then he would use

what he'd created and do the reverse with a high cytokinin/low auxin ratio. Shoots would pop out of the callus in several months. Meyer's research involved trying to find which ratios worked best. He had excellent success with daylilies and iris, and some success with hostas, but no success with peonies. *"A callus is a mass of undifferentiated tissue. Creating callus tissue is a way to ramp up multiplication rates, but it's a very inaccurate way to multiply and clone true material."*

At that time in the hosta business, the only form of propagation was manual division. The growth rate of a cultivar determined how fast people could get the plant – and the cost. A slow-growing plant like *H. 'Frances Williams'* might take 10 – 15 years to have enough stock to sell on a commercial basis and as a result was very expensive. *"Tissue culture solved that problem for commercial propagation."*

Walters Gardens

After graduating from the University of Illinois in 1977, Mark was hired by Walters Gardens in Zeeland, MI, to run their tissue culture lab. The lab was unique because it was the first one in the world dedicated to propagating herbaceous perennials. *"It was an exciting place to be."* Working with chrysanthemums, asters, and babies' breath in the first year, he was able to increase the multiplication rate five to ten times the rate of manual division. *"All of the plants then went out into the growing fields. And they were disease free."*

One of the owners suggested that he work with hostas, and after talking with several people and doing research, Mark was able to develop the process for tissue culturing hostas in about six months.

He began working with a few of the popular hostas of the time – *H. fortunei aureo-marginata* and *H. undulata albo-marginata*. *"You're laughing but this was the #1 white-edged hosta in the world until about 1990."* Other cultivars he worked with initially were *H. plantaginea* and the 'new kid on the block' at the time - *H. 'Royal Standard'*.

Multiplication rates for hostas compared to other perennials are much lower. The owner who had suggested working with hostas was discouraged by the low rates, but suggested

that new cultivars might be needed. Along with John Walters, Mark visited Englerth Gardens in Hopkins, MI, to select cultivars for tissue culture that up until that time had only been in the collector's trade.

*"We picked up a replacement in the trade for *H. undulata albo-marginata* called *H. 'Francee'*. It certainly was a superior plant."* They also selected *H. 'Gold Edger'*, *H. 'Gold Drop'*, *H. 'Gold Regal'* and about 20 other different types. *"And these were not at all in the trade. We started multiplying those plants. Walters would grow hostas up to a certain size, and they would divide every two years. They did that for many years after I left."*

*"They also were fortunate – Pauline Banyai had purchased *H. hyacinthina* from them and found one that turned gold in the middle and named it *H. 'Gold Standard'*. It was the most popular hosta in the late 1970s and 1980s. Everybody had to have *H. 'Gold Standard'*. They bought all of her stock. This is the first *H. 'Gold Standard'* ever propagated by tissue culture in about 1979."*

During his time at Walters Gardens, Mark worked with about 30 different hosta cultivars. He also experimented with colchicine in culture in attempting tetraploid conversions in 1980-81.

Paul Aden and Klehm Nursery

In the same time period, Paul Aden entered into a 20 year contract with Klehm Nursery. *"I did know Paul. This was his "Garden of Aden". He had probably the world's leading hosta collection in the 1970s – not just the largest, but the **leading** one. He had obtained so many beautiful plants. He had a retail catalog called the "Garden of Aden", and he'd sell some of his plants at \$20 or \$40 or \$50 per plant, but he'd only sell three or four of them. Then somehow, somehow he caught wind of plant tissue culture, and he thought, 'Aha! Here's a way I can take my two or three plants and make thousands of them'."*

*"Roy and I were talking about this a little bit earlier and were trying to figure out when Paul contacted Roy. Klehm was one of the most respected – if not **the** most respected – perennial nurseries in the United States."*

Paul Aden also contacted Mark in 1980 and asked him if he would speak at the AHS national convention on plant tissue culture. *"I got there and gave my talk, and I could see that some people were like, 'YEA! I can get lots of plants!', and some people with retail catalogs were very worried and thought they were going to ruin the world of hostas, and it turns out that we didn't. We changed it for the better for everybody."* Paul asked Mark to write an article on tissue culture for the AHS bulletin in 1981.

Mark said that *H. montana aureo-marginata* – one of his favorite hostas - was becoming somewhat available at that time. *"I remember speaking to a nurseryman and there weren't more than a couple of dozen of these in the country. The first time I ever saw this plant in the garden was at the 1980 national convention. I said, 'I've got to start growing hostas', and I fell in love with hostas."*

Some of the hostas supplied by Aden and introduced by Klehm Nursery in 'their beautiful color catalog' were *H. 'Blue Angel'* - 'one of the all-time greats', *H. 'Sum and Substance'*, *H. 'Fragrant Bouquet'*, *H. 'Wide Brim'*, *H. 'Sun Power'*, and *H. 'Great Expectations'* – 'obtained from John Bond of Savill Gardens, England'. *"And the list went on and on. Klehm's was really responsible - in good measure - for increasing the interest in hostas through the 1980s and the popularization of the AHS. It grew by leaps and bounds."*

"The 1980s was a time of great expansion of interest in hostas. We've got to be really thankful to Roy Klehm for the fact that he was willing to pay for the research with Martin Meyer at the University of Illinois, but (he) also entered into this long term contract with Paul Aden. And if you know Paul Aden – he was not the easiest man in the world to deal with. He had to go through a lot of hoops to deal with Paul, but that relationship benefited all of us. We should thank Roy for everything he's done."

Tissue Culture Sports

Hosta sports occur naturally by division and by simply growing in the ground. *"Tissue culture enhances and magnifies the development of*

sports. Almost all major sports that we have today have some origin in tissue culture.

"Of course we all know H. 'Halcyon' – one of Eric Smith's great blue-green Tardianas." Discussing the large family of sports that *H. 'Halcyon'* has generated, Mark said, *"I never dreamed when I started tissue culture that you'd get a green-leaved sport out of a blue-leaved plant."* A number of similar looking green sports have been named including *H. 'Devon Green'* and *H. 'Peridot'*. *"There may be some variation."*

Patricia Scolnik in Delaware found *H. 'First Frost'* - *H. 'El Nino'* and *H. 'Sleeping Beauty'* are similar types. An employee named June at Neo Plants in England found a yellow-centered *H. 'Halcyon'* sport and it was named for her. *"H. 'June' is one of our all-time great hostas. It's certainly got everything you want in a hosta - good form, substance, color – everything that we're looking for."*

Hans Hansen discovered the tetraploid form of *H. 'June'* at Shady Oaks and named it *H. 'Touch of Class'*. *H. 'June'* also sported to a waxless form called *H. 'June Fever'* developed by Jan van den Top of Holland who has now introduced a tetraploid form - *H. 'Justine'*.

"H. 'Golden Tiara' sits at the center of a great sports family. It was a big break in hostas like H. 'Gold Standard' was in the 1970s. It was the first small-sized, yellow-edged hosta on the market." *H. 'Golden Scepter'* (Savory and Walters Gardens), *H. 'Platinum Tiara'* and *H. 'Emerald Tiara'* (Walters Gardens), and *H. 'Diamond Tiara'* (T & Z Nursery) were all discovered through tissue culture. Ali Pollock discovered the tetraploid form that was named *H. 'Grand Tiara'*. Walters Gardens developed a large number of sports from it as well.

Mark looked in vain for years for a sport of *H. 'Great Expectations'* among the several hundred thousand his company produced in the 1990s. He offered rewards to any employee who found one. While visiting Alex Summers in 1996, he discovered that Alex had the reverse sport in his garden labeled *H. 'Great Arrival'*. *"A few years later we found one in our nursery so I called Alex and asked him if he'd ever done anything with his plant. He wasn't sure if he*

had it anymore. I gave Alex credit for naming. It's proved to be a very good garden plant."

H. 'Blue Mouse Ears' is a tissue culture sport, but it is a different kind of tissue culture sport. Mark noted that it's not a leaf mutation. "Something else happened in this plant." It came out of a flat of H. 'Blue Cadet' and was found by Emile Deckert. He brought the 'shrimpy little plant' home and planted it in his garden and grew it for several years. "It's not at all like H. 'Blue Cadet'. I would have thought this was a tetraploid - but no - it's supposed to have giant chromosomes. I don't understand what that is, but this is a very different plant."

Mark commented that Jeff Miller had shown several *H. 'Blue Mouse Ears'* seedlings in his talks earlier. *"Valuable seedlings.. come out of H. 'Blue Mouse Ears', and they're really unusual."*

The Deckerts had *H. 'Blue Mouse Ears'* propagated at a lab. *"Not mine, but somewhere else - and in the batch they got from this lab, they had a streaked one."* They called it *H. 'Royal Mouse Ears'* and brought the tiny single division to Mark to propagate. He thought, *"Man! If we screw up and don't get this going in culture, they're gonna be mad at me. So I put that plant on my front porch all summer long."* After careful watering and fertilizing, several more buds had appeared by fall. Mark told Emile and Jane that once propagation of *H. 'Royal Mouse Ears'* began, the margined and center-variegated versions would be found. *H. 'Frosted Mouse Ears'* (margined) and *H. 'Holy Mouse Ears'* (centered) were discovered at Q & Z. Many other sports in the *H. 'Blue Mouse Ears'* family have been discovered as well.

"Anytime I have a streaked hosta, I know I'm going to be able to get the other forms. Sometimes as many as three or four different forms."

"Some hostas never seem to mutate. H. plantaginea for many years didn't mutate. H. 'Elatior' also did not. One year we found a nice yellow-margined type we named H. 'Victory'. I think it's one of the best big variegated hostas on the market. If you listened to Jeff Miller's talk, he's been using H. 'Justice' (a streaked sport of H. 'Elatior'), and I think he's got some

unusual things. He's very creative in his work on hybridizing and crossing H. 'Justice'. I don't know if he's ever made a cross with H. 'Praying Hands'."

Jeff Miller: *"It's amazing!"*

"He's got some amazing stuff coming out - that's a crazy cross! It's a great cross!"

"One thing that Jeff didn't mention in his talk today - his place is so clean. I don't know how he has time to hybridize. His place is neat and clean. If you really want to see what's happening in hybridizing, you need to visit Land of the Giants."

Bob Solberg's *H. 'Guacamole'* sported from *H. 'Fragrant Bouquet'* and out it, Bob got a green form he named *H. 'Fried Green Tomatoes'* and the yellow form he called *H. 'Fried Bananas'*. *"Hans Hansen found H. 'Stained Glass' - one of the all-time best hostas."* It is a gold-centered sport of *H. 'Guacamole'*.

Not All Tissue Culture Sports Are Good

Mark learned hard lessons early on - especially in evaluating sports with white margins and white centers. White-margined sports can develop the drawstring effect and also burn. *"Anytime you have a white-edged hosta developed in tissue culture, I make sure I grow it on for several years. We've introduced a few drawstring plants, and I regret every single one of them to this day so I'm very cautious about white-edged hostas."* He noted that *H. 'Sugar and Cream'*, his white-margined sport of *H. 'Honeybells'*, 'is fine'.

Mark shared the story of *H. 'Northern Halo'* - a 'tremendous sport' out of *H. sieboldiana* 'Elegans'. It was found at Walters Gardens and his nursery found an 'identical' sport. The decision was made to release them both under the same name. When the plants matured, they were discovered to be highly variable and one form with a narrow white margin developed the drawstring effect.

"At the time, I thought if they had one, and I had one, they would maybe be the same thing. UH-UH! That's why sometimes when you see my lab and another lab.. we might do something like a green-centered, yellow-edged sport of a gold hosta. We might introduce something that sounds similar, but you don't

know until you've had those plants in different circumstances if those plants are identical."

Another lesson learned: *"If a white-centered sport appears in tissue culture, unless it's got a wide green edge - it's gonna be a bad plant."* If a tissue culture lab releases a white-centered sport right out of the lab, Mark remarked that they are doing a 'disservice' to everyone.

The Future of Tissue Culture

"The most exciting tissue culture going on now is in Asia." Huge labs are located in China - most don't deal with hostas, but work with all kinds of foliage plants. There are labs in Viet Nam, Thailand, Sri Lanka, India and numerous other Asian locations. *"The labs in foreign countries have changed the way we do business. Foreign competition has changed everything."*

Virus control is extremely important and all perennials must be tested before being put into tissue culture. *"Hostas are one of the cleanest group of perennials I've ever seen because we are conscious as a group of viruses. And we're very careful and test and look at them."*

Mark has worked with some companies where 20-25% of the perennial plants they bring him to tissue culture are virused. Daylilies are not immune to virus either. Mark estimated that one out of 20 has some type of virus. *"It's important to be testing those plants. Virus can be removed by the tissue culture process."*

Mark also commented that tissue culture is being used around the world to preserve plants that are endangered species.

Tetraploid Conversion

Sometimes a plant will be polyploid - one tissue layer is tetraploid and the other layer is diploid. *"So if you want to take a hosta and make it into a tetraploid in culture, it's possible. It's certainly something that we're involved with."*

"I'll say this again and again and again - breed with the tetraploids. Do what the daylily people did. Then we don't have to mess around with dangerous chemicals in culture or in the greenhouse. Breeding with tetraploids.. that's the way to go to develop a whole new race of hostas. Not just the induced tetraploids. Let's

get some red tetraploids. I know some of them are being developed by Bob Solberg."

New Q & Z Sports

"Every year we probably find 100 good new tissue culture mutations in our lab. We like to grow our plants three, four, five years before we'll actually ever put it back into culture."

Mark showed several of Q & Z's new and future sport introductions. A few like *H. 'Cotton Candy'* (a beautiful streaked sport of *H. 'Pathfinder'*) and *H. 'Emerald Charger'* (a wide-margined version of *H. 'Stained Glass'*) are available this year. He thinks *H. 'Powder Keg'* (a streaked form of *H. 'Powder Blue'*) has great potential as a breeding plant. *H. 'Daredevil'* is from *H. 'The Right Stuff'*.

H. 'How Bout That' got its name because that's what Mark said every time he passed the streaked sport of *H. 'Sum It Up'*. He commented that it is similar to *H. 'Gunther's Prize'* in appearance. *"But this is a different kind of variegation."* *H. 'Gunther's Prize'* only has a 2% true rate in tissue culture and is not a commercially viable plant. *"This plant is and we'll be introducing this probably in the next couple years."*

He also showed an unusual looking sport of *H. 'Pineapple Upsidedown Cake'*. *"When I saw it, I thought, 'Oh, MAN! Do we have a virus or something?' We grew it for a few years, it kept the yellow veins. Virus tests came back clean so we have a clean, non-virused, yellow-veined hosta that we'll be offering on the market in probably 2013 or 2014."*

Mark closed with *H. 'Intermittent'* - a sport of *H. 'Lakeside Beach Captain'* with *'narrow little sectors of green - unusual, definitely a different kind of variegation'*.

By Reldon Ramsey