

2017 NAFEX/NNGA list of presenters, Biographies and Abstracts (in alphabetical order)

**Barber, Nicole**

Building Plant Communities through Permaculture Guilds in Fruit and Nut Tree Cultivation

Abstract: Permaculture is a method of agriculture that focuses on building microbial communities below the soil and building plant communities above the soil. One way these communities are built is to create a guild in which each component contributes to the system. A permaculture guild is a closed system that uses biological resources, cycles nutrients and energy, and stacks functions. Applying permaculture techniques, such as guilds, to fruit and nut tree cultivation can decrease maintenance, water use, need for chemical pesticides or fertilizers, and increase profit. This method can also address the growing concern of creating a sustainable agricultural system to feed the growing population and limit the carbon footprint.

Bio: Nichole Barber is a student and researcher at the University of Florida focusing on plant pathology and soil science. She is currently working in two labs, one that studies host/pathogens interactions under Dr. Frank White and in the other she is working on the weeds and wilds project that focuses on identifying fungal pathogens of understudied plants with Dr. Brantlee Spakes-Richter and Dr. Roseann Healy. Nichole will be entering a PhD program in August 2018. She has spent many years researching sustainable agriculture, before switching her focus to plant pathology. She hopes to do research on using permaculture techniques to manage common plant pathogens and studying the plant microbiome for her PhD work. She has been recognized for her research efforts with several awards and scholarships, including her most recent achievement, winning first place at the University of Florida's 2016 Plant Science Symposium.

Nichole Barber, University of Florida, College of Life and Agricultural Sciences. Department of Plant Pathology, Nbarber@ufl.edu, doctorofplants@gmail.com

**Brenneman, Tim**

Pecan Truffles -- A Fungus with a Future!

Abstract: In the 1980's I found a fungus growing in association with the roots of pecan trees. We identified it as a true truffle, *Tuber texense*, which was later synonymized with *Tuber lyonii*. Truffles grow underground as mycorrhizae on the roots of trees, and are highly valuable commodities in the gourmet food industry. Other truffle species are sold in Europe for thousands of dollars per pound, making them one of the most expensive foods in the world. While the ones found in Georgia are less expensive, some farmers have started harvesting and selling them for \$200-\$300 per pound. There are even truffle dogs being trained and used to facilitate harvest. The extent of truffle distribution is not fully known, but Georgia has over

150,00 acres of commercial pecan orchards, and thousands more trees in yards, fence rows, etc. that potentially host truffles. Current studies are focusing on identifying where this truffle occurs, and why some sites are more favorable for truffle production than others. Methods to inoculate the fungus on roots of pecan trees in nursery settings are also underway to encourage establishment of truffle orchards with more uniform, consistent production. Inoculating pecan trees with other truffle species is even a possibility. The history and current status of this work will be discussed.

Bio: I was born and raised in Broadway, Virginia, a small town in the Shenandoah Valley. I have always enjoyed all aspects of the great outdoors, including harvesting and eating nature's bounty, particularly wild mushrooms. This led me to major in biology at Goshen College in Indiana, a school more widely known for training pre-med students. My passion for agriculture and mycology took me to graduate school at Virginia Tech where I obtained a Ph. D. in plant pathology, a field that combined multiple areas of interest. The opportunity to help solve serious problems in the production of food and fiber made this career track even more appealing. I have been on the faculty of the University of Georgia since 1986, and my research focuses on developing integrated solutions to several of the most damaging diseases of peanuts and pecans. I also enjoy teaching Introductory Plant Pathology and being involved in international projects in Haiti, Nicaragua, and several other countries. My wife Joy and I have four adopted children ranging in age from 17-20 which keep us very busy.

Tim Brenneman, Dept. of Plant Pathology, UGA Tifton Campus, Tifton, GA 31794 (229) 392-1220 (Cell), (229)-386-7285 (FAX)

## **Britton, Rhonda**

### Growing Jujube

Abstract: The Winfred Thomas Agricultural Research Station (WTARS) in Hazel Green, Alabama, is home to one of the largest jujube orchards in the Southeast. The jujube fruit tree has adapted to a wide range of temperatures and has produced fruit under drought conditions at WTARS. Currently there are 11 cultivars of jujube growing in the orchard. Cultivars in the orchard are Li, Li 2, Lang, Sherwood, Silver Hill, Tigertooth, So, Taso, Redlands no4, Sihong, and Sugar Cane. This talk will cover the growth habit of each cultivar.

Bio: Rhonda Britton is from Huntsville and lives in Hazel Green, Alabama. She works for the Alabama Cooperative Extension System (ACES) as a Regional Extension Agent for Home Grounds in Madison, Jackson, and Morgan counties. Prior to working with ACES, she was a research associate at Alabama A&M University (AAMU) where she worked for Dr. Caula Beyl (former Professor at AAMU and current Dean of The University of Tennessee, College of Agricultural Services and Natural Resources). There Rhonda performed experiments on Dr.

Beyl's research with *Ziziphus jujuba* (Jujube) and *Asimina triloba* (Pawpaw). She received her B.S. degree in Horticulture and M.S. in Plant Science from Alabama A&M University.

Rhonda Britton, Regional Extension Agent, Home Grounds, Alabama Cooperative Extension System, 819 Cook Avenue, Huntsville, Alabama 35801, (256) 532-1578, rcb0003@aces.edu

## **Bullard, AJ**

Mulberry: Propagation and Culture, Myths and Mysteries Unveiled

Abstract: Among the topics on mulberries to be covered are the following: mulberry orchards then and now; sericulture (raising silkworms to make silk on mulberry trees); the nutritive value of mulberries (resveratrol); fruit color: clarification of the three prime mulberry species; difficulty in grafting and rooting the three species; creating dwarf mulberry trees by grafting; herbarium mulberry records confused; identification of hybrid versus true species; diseases and insects: popcorn disease, fungal twig dieback, and white peach scale; and the top five tasting mulberries out of the 115 varieties from my orchard.

Bio: I am a retired dentist who has been passionate about mulberries since I was five years old. I have been the head tester for mulberries for the North American Fruit Explorers and the Southern Fruit Fellowship since the 1980's, and have written numerous articles. I once fruited 115 varieties of mulberries in my orchard in one season. My research in mulberry culture includes mulberry diseases, quality and hardiness, and debunking age-old myths about mulberries.

Dr. AJ Bullard, 307 Henderson St., Mount Olive, NC 28365; (919) 658 – 4424; email@ajbullard.com

## **Conner, Patrick**

Scab Resistant Pecan Cultivars

Abstract: Georgia is the leading pecan producing state, and pecans are one of Georgia's most valuable horticultural crops. In the humid growing conditions of the southeastern United States, the most economically damaging pest of pecan is pecan scab, caused by the fungus *Fusicladosporium effusum*. This fungus infects the young leaves and nut shucks, killing the tissue as it spreads. Chemical control of scab requires eight or more fungicide sprays over the course of a season. Pecan cultivars vary widely in their resistance levels to the scab pathogen. Several new cultivars have been introduced in recent years with improved resistance to this

devastating disease. In this talk we will discuss which cultivars will perform best in low/no spray situations in a humid growing region and give our cultivar recommendations for smaller growers.

### Growing Muscadine Grapes

Abstract: Similar to rabbiteye blueberries, muscadine grapes (*Vitis rotundifolia*) are one of the few fruit crops well suited to the deep-south. Because they are native to our region, they are resistant to most of the pests and diseases that prevent the culture of bunch grapes in this region. Growth of muscadine vines is usually quite vigorous and vines can be grown on a small scale with few inputs. In this talk I will introduce you to muscadine grapes, give an overview on the care needed by the vines, and finally discuss some of the best cultivars for homeowners and small growers.

Bio: Dr. Conner received his B.S. in Horticulture from Purdue University in 1991, and his Ph.D. in Plant Breeding from Cornell University in 1995. Dr. Conner was hired by the University of Georgia in 1998 to establish a pecan tree breeding program, where he is now a Professor in the Horticulture Department. In 2004, Dr. Conner also began coordinating UGA's muscadine breeding program. The main focus of the pecan breeding program is to develop cultivars with strong resistance to pecan scab combined with superior nut size and quality. The muscadine breeding program focuses on developing self-fertile cultivars with large berry size and improved skin and flesh texture. Dr. Conner has released three muscadine cultivars, 'Lane', 'Hall', and 'Paulk' and one pecan cultivar 'Avalon'.

Dr. Patrick Conner, Horticulture Dept., University of Georgia – Tifton Campus, 2360 Rainwater Road, Tifton GA 31793, pconner@uga.edu

### **Craddock, Hill**

#### Chestnut Culture in the Southeast

Abstract: Chestnut trees have been cultivated for thousands of years for their sweet, edible nuts, and were a staple food of traditional cultures in East Asia, Europe, and eastern North America. Migrating peoples have carried chestnuts far beyond their native ranges, as far as South America, Australia, New Zealand, and the West Coast of North America. Chestnut trees come very close to representing the archetypal tree crop. They are very long lived; examples of *Castanea sativa* in Italy are known to be more than one thousand years old. And they provide annual harvest of delicious, nutritious, easily harvested, easily stored food. Because a mature chestnut orchard resembles a temperate hardwood forest, in both structure and function, it provides significant ecological benefits with consequences far beyond merely producing a fruit. Chestnuts can be, and should be, a part of a healthy diet, and a healthy agriculture.

We have more than ten years of observations in our Chestnut Cultivar Evaluations that allow us to predict which chestnut varieties can be grown successfully for their nut crop. Chestnuts may be ideally suited for a silvopasture production system that integrates grazing and forage and nut production. For timber, it is the tree form – not the nut quality – that is most important. Restoration of a truly timber-type American chestnut to the forests of the southeastern US depends on the concerted efforts of citizen scientists, enthusiastic volunteers, private landowners, university researchers, and state and federal agencies. It is a multidisciplinary undertaking, drawing together classical plant breeding and silvicultural techniques with molecular biology and recombinant DNA technologies. We are breeding and selecting for resistance to two catastrophic diseases: chestnut blight and Phytophthora root rot. Our breeding strategy is based on conservation of naturally occurring chestnut trees, hybridization with disease-resistant chestnut trees, screening for disease resistance, and testing of hybrid progeny under forest conditions. It's a long-term project. But the prognosis is good. We can move disease-resistance genes into American chestnut and recover disease resistant progeny in a way that allows us to conserve significant amounts of the genetic diversity of the native species. The southeastern forests harbor vast amounts of genetic diversity of great potential value that is still largely unexplored.

Bio: Dr. James Hill Craddock is the UC Foundation Davenport Professor in Biology at the University of Tennessee at Chattanooga, Department of Biology, Geology and Environmental Science. He grew up in Woods Hole Massachusetts, on Cape Cod, son of a Marine Biologist father and an Emergency Room Nurse mother, and went to sea for the first time at age 16, working summers on commercial fishing boats. He grew his first chestnut tree from a seed he planted at age 15 and he is still a chestnut enthusiast. He moved to Italy in 1987 where he and his wife Paola helped run her family's restaurant business. They moved with their son Emilio to Tennessee in November of 1994.

Dr. Craddock completed doctoral and postdoctoral research on hazelnut and chestnut biology at the Università di Torino in Turin, Italy before conducting postdoctoral research on anthracnose-resistant dogwood cultivars at the Tennessee State University/USDA-ARS Nursery Crops Research Station in McMinnville, TN. He holds a Master's Degree in Horticulture from Oregon State University, in Corvallis, OR, and a Bachelor's degree in Fine Arts and Biology (double major) from Indiana University, Bloomington, IN.

His current research is focused on the restoration of the American chestnut to the Appalachian hardwood forest ecosystem and the establishment of a commercial chestnut industry in Tennessee. His project areas include breeding for resistance to chestnut blight and Phytophthora root rot, Castanea germplasm collection and characterization, and chestnut cultivar evaluations.

J. Hill Craddock, UC Foundation Robert M. Davenport Professor of Biology, Department of Biology, Geology, and Environmental Science, University of Tennessee at Chattanooga, 615 McCallie Avenue, Chattanooga TN 37403 USA, (423) 290-8924, Hill-Craddock@utc.edu

## **Davis , Lester**

The Trail of Hybrid ChinquapinXChestnut from Seed to Deltaville, Virginia

Abstract: The presentation will include how I met Auzzville Jackson Jr., and the origin of the budwood taken to Virginia and grafted onto chinquapin rootstock.

Bio: Born and reared in Tifton, GA, Mr. Davis had three brothers and graduated from Tifton High School. He attended Georgia Teachers College for two years and entered the US Army in 1953 for two years. He started to work for Georgia Power Company in 1956 as helper, and retired in April 1989 as an electrical engineer. Mr. Davis purchased 10 acres of wooded land, had 3 acres cleared, and started plantings of many different fruit trees including Asian pears, Asian persimmons, chestnuts, blackberries, blueberries, muscadines and pomegranates. He is currently a vendor at local downtown market each Saturday morning from April thru November.

Lester H. Davis, 1644 Lokey Dr., Columbus, GA 31904; (706) 323 – 0857; Lhdavis8@knology.net

## **Easterlin, Will**

Pecan Marketing in Georgia

Abstract: Pecans are unique in taste and flavor but most different in marketing. We will discuss in detail how the farmer gets the pecans from the field to the consumer and the roles of different companies along the way. We will also take a close look at how the Chinese market has changed the pecan industry in the last 10 years.

Bio:

Will Easterlin is in charge of all International Sales for Easterlin Pecan Company. Will also plays a vital role in the purchasing of pecans from growers throughout the state of Georgia as well as Alabama, Louisiana, Mississippi, Texas, Arizona and New Mexico. He has served as Executive Secretary-Treasurer of the Southeastern Pecan Growers Association and an Advisor to the Georgia Pecan Growers Association as well as an Advisor to the Georgia Pecan Commodity Commission.

Will Easterlin, Easterlin Pecan Company, 210 S Dooly St., Montezuma, GA 31063, Office: (478) 472-7731, Cell: 478-244-9812, Fax: 478-472-8690, [will@easterlinpecan.com](mailto:will@easterlinpecan.com)

## **Ferver, Buzz**

### Selecting Fruit and Nut Trees for Vermont

Abstract: In my search for suitable fruit and nut trees in Vermont I have planted, studied, and eliminated trees not hardy enough for Zone 4 (-25 degrees F. with no snow cover). I will talk about the historical background of nuts and fruits in Zone 4, and about the survivors to date.

Bio: I have always been preoccupied with the natural system of the planet. My earliest memories are of crabapples, flowers, rocks and water, spending my childhood collecting bugs, leaves and being lost in the woods studying plant communities. Totally convinced that either bacteria or fungus (or both together) actually run the show, I nonetheless work hard in human society.

In the 70's, I studied horticulture and landscape design at the feet of my father and continue with my horticulture fantasy at my wet farm in Berlin Corners VT. In the 80's and 90's I worked with two of the largest mushroom growers in Pennsylvania to build revenue producing operations from their previously underutilized stream of mushroom growing substrate. I also spent quite a bit of time researching and developing mushroom compost as the organic fraction in green roof media.

I have worked for 30 years as a consultant to farming operations on every scale, to design, and develop on-farm composting at appropriate scale and technology, and in a parallel career, as a general contractor, designing and building homes and doing major renovations to existing buildings. On my farm in Vermont I use permaculture principles, searching nut trees suitable for Zone 4, and building soils by composting. I was on the Board of Directors of Yestermorrow Design Build School for 9 years and still teach there periodically. I have four children, and three grandchildren.

Buzz Ferver, Design Ecologist, General Contracting/Project Management, Perfect Circle Farm, [www.perfectcirclefarm.net](http://www.perfectcirclefarm.net), 1170 Airport Rd, Berlin, VT 05641, buzzferver@gmail.com, cell phone (802) 522-2312, home office phone (802) 223-7484

## **Fulbright, Dennis**

Was the 2016 Michigan Chestnut Harvest an Anomaly or Trend?

Abstract: Overall, the Michigan chestnut industry probably produced more than 300,000 pounds in 2016. The chestnut cooperative in Michigan recorded gross yields approaching 250,000 pounds and other non-cooperative growers probably added another 50,000 pounds. Yields were generally 3 times greater than previous high yields. Some growers produced more than 4,000 pounds per acre approaching 5,000 pounds per acre. What was responsible for this significant increase in yield in 2016 and will production continue to increase? Such questions

are extremely important when considering marketing, pricing, and chestnut product development.

Bio: Dennis Fulbright is a Professor Emeritus at Michigan State University having worked on plant and tree diseases for over 35 years. He has performed research on bacterial, viral, and fungal diseases of wheat, tomato, oak, chestnut, and numerous conifer species. He received his Ph.D. from the University of California, Riverside in 1979 and joined the faculty of MSU in the Department of Botany and Plant Pathology that same year. He was the editor of the Northern Nut Growers Association (NNGA) Annual Report from 1996 to 2015 and is a past president of the NNGA. He played an important role in the development of the Michigan chestnut industry by conducting needed research, conducting educational programs, and supported the development of novel chestnut products and marketing concepts. Currently, he is the Vice President of two start-up chestnut-based companies, Chestnut Orchard Solutions and Treeborn, Inc. (a chestnut processing company).

Dennis W. Fulbright, Chestnut Orchard Solutions, [www.chestnuthelp.com](http://www.chestnuthelp.com), [info@chestnuthelp.com](mailto:info@chestnuthelp.com)

## **Hammons, Brian**

### Black Walnut Research & Promotion Builds Future Supply & Demand

Abstract: Hammons Products Company in Stockton, Missouri is the world's largest commercial processor of American Black Walnuts. Hammons Products buys wild black walnuts in the Midwestern U.S., shells them, and sells the nutmeats as food ingredients for ice cream, baked goods, and candies. Consumers find them in grocery stores under the "Hammons Black Walnuts" brand and also other national or regional brands. The ground nutshell is sold for abrasives, filtration, oil drilling, and sports fields. Hammons researchers seek to develop improved variety black nuts that offer higher nutrition and that provide greater return to the grower. The presentation will give an overview of the nut industry supply and consumption and provide an update on recent developments.

Bio: Brian Hammons is the third generation leader of the family company, serving as President and CEO. He is a 1980 graduate of Missouri State University with a degree in Marketing. He also earned a JD (law) degree from the Southern Methodist University in Dallas, TX in 1985 and practiced law briefly in Kansas City. Brian is active with church and civic groups in Missouri, and has run numerous marathons, including eleven Boston Marathons.

Brian Hammons, President, Hammons Black Walnuts, Stockton, MO; (417) 276-5181; [bhammons@black-walnuts.com](mailto:bhammons@black-walnuts.com); web site <https://black-walnuts.com>

## **Hanna, Wayne**

New Cold Tolerant Citrus for the Southern USA (with Lindy Savelle)

Abstract: The characteristics of three cold tolerant seedless citrus cultivars developed at the University of Georgia will be discussed: Sweet Frost, a tangerine; Grand Frost, a lemon; and Pink Frost, a grapefruit. Sweet Frost and Grand Frost were developed from the Changsha tangerine and Ichang lemon, respectively, grown in backyards. Sweet Frost apparently arose from a chance cold tolerant seedling and was discovered in a backyard.

Bio: Wayne Hanna has worked for USDA/ARS and/or the University of Georgia as a plant breeder for the past 46 years at the UGA, Tifton Campus. He has developed popular forage and turf cultivars. More recently, he has developed seedless citrus and ornamental grass, legume, and tree cultivars.

Wayne Hanna, [whanna@uga.edu](mailto:whanna@uga.edu)

## **Holt, Justin**

Nutty Buddy Collective: Growing a Community Supported Perennial Agriculture

Abstract: A look at the Nutty Buddy Collective's work as an example of a creative response to a variety of overlapping contemporary social and environmental challenges for perennial agriculture. We will see how the NBC is focusing on community engagement and collaboration to create a multi-faceted, cooperative enterprise that includes mentoring for new growers, pathways to land access, development of a foraging network and community nut processing facility, and more.

Bio: Justin Holt is co-founder of the Nutty Buddy Collective, serves on the NAFEX board, and works with The Roots Foundation, an organization working to build outdoor classrooms at schools and to connect learning to the world beyond four walls. He is passionate about exploring how agroecology and ecological principles can help make our communities more inhabitable, resilient, and egalitarian.

Justin Holt, [nuttybuddycollective@gmail.com](mailto:nuttybuddycollective@gmail.com), 828-545-6198

## **Hughes, Vicki**

### Growing Olives in the Southeast

#### Abstract:

Bio: Vicki Hughes is the Executive Director of the Georgia Olive Growers Association (GOGA) serving its members throughout the Southeastern United States since 2012. GOGA has been instrumental in the development and funding of the University of Georgia's Olive Research and Development program, public education initiatives and other various programs to grow the olive industry in the region and U.S. Prior to supporting the olive industry, Vicki worked in economic development with the Valdosta – Lowndes County Industrial Authority where she served as Assistant Executive Director and Director of Marketing & Existing Industry for 12 years. During her tenure in economic development she became a successful grant writer and administrator that carried over to her work with GOGA.

Vicki lives in Naylor, GA, and is a graduate of the Carl Vinson Institute for Government/University of Georgia and the Georgia Academy for Economic Development. She has been a published photographer since 1984 and is currently the owner and developer of Olio di Vita, a line of healthy natural skincare products formulated using extra virgin olive oil.

Vicki Shaw Hughes, Executive Director, Georgia Olive Growers Association, 5967 Lake Shore Dr., Naylor, GA 31641, (229) 300-9931, [georgiaolivegrowers@gmail.com](mailto:georgiaolivegrowers@gmail.com), [www.georgiaolivegrowers.com](http://www.georgiaolivegrowers.com)

## **Kelsey, John**

### Growing and Evaluating EFB-Resistant Hazelnut Cultivars in West Virginia

Abstract: The hunt for great eastern hazelnut cultivar is still underway. The winner may be one or a combination, and may differ per locale. Learn how to acquire, plant, and evaluate hazelnut candidates at your site.

Bio: Mr. Kelsey had his fetchin' up on a dairy farm in Michigan. He started his career as a physics professor, and spent most of his working years as an engineer in factory automation. John and wife Kay are retired on a farm in West Virginia. Their farm includes a 40 acre black walnut timber plantation planted between 1995 and 2000. They have a few acres of EFB resistant European hazelnut prospects started in 2011, and the beginnings of a fruit orchard to combat the inedible stuff at the produce department.

John Kelsey, [jfknutz@gmail.com](mailto:jfknutz@gmail.com)

## **Kvien, Craig**

### The Future Farmstead

Abstract: Future Farmstead, a water, energy & people efficient home on the University of Georgia Tifton campus. Students helped in the design and construction of the home build, and now a few lucky ones are living in it. The 3,400 sq ft home and 600 sq ft adjacent carriage house is designed for exploration and learning more about living and working smart, net-zero energy and water, accessibility, gardening, agriculture, and using communications tools to make life better. This very efficient home uses 70% less energy than most new builds, and couples solar PV & solar thermal with geo-thermal to help it reach net-zero. The home also is very water efficient, with low flow fixtures, sensors and a grey water system. Surrounding the home is an edible landscape designed by UGA faculty and students that features many plant varieties developed by campus plant breeding teams. Like the home, the landscape that surrounds is one of beauty and function. For more information - [www.futurefarmstead.org](http://www.futurefarmstead.org) .

Bio: Craig, along with many partners, helped develop the Future Farmstead program that resulted in a very nice research, development and extension net-zero energy, net-zero water, accessible, and efficient “home” on the Tifton campus. This is the team’s second net-zero energy home built in Tifton, with the first in partnership with Moultrie Technical College and the Tift County Foundation for Educational Excellence. Along with building efficient homes, Craig is also a crop physiologist with a focus on peanuts and drought tolerance. He started with UGA in 1979, and has enjoyed most every minute working with a group of very talented people on the Tifton Campus.

Craig Kvien, [ckvien@uga.edu](mailto:ckvien@uga.edu) (229-392-3507)

## **Lauritzen, Elisa**

### Characterization of Black Walnut Genotypes for Resistance to Thousand Canker Disease

Abstract: Black walnut, *Juglans nigra*, is an important nut and timber crop in the United States. Shortly after the beginning of the 21<sup>st</sup> century, a decline in the health and, later, death of black walnut trees was observed in several western states and the pathogen-vector complex now known as Thousand Cankers Disease (TCD) was discovered.

TCD, caused by *Geosmithia morbida*, is vectored by the walnut twig beetle (WTB), *Pityophthorus juglandis*. TCD has been confirmed in nine western states and seven eastern states with quarantines issued in 18 states. Cankers develop around the entry holes of the WTB and quickly expand, coalesce and kill the branch or stem. There are currently no management practices for TCD. The research and development of resistant cultivars is important to maintain

for sensitive ecosystems and the livelihoods of forest managers, timber producers and growers.

The purpose of this project was to evaluate *Juglans nigra*, *Juglans regia*, and *Juglans* hybrid trees for resistance to TCD through direct inoculation of the pathogen *Geosmithia morbida*. Inoculation of limbs took place in early summer at two Utah State University research orchards. Inoculated limbs were removed from the tree after senescence and canker size measured. Of the nearly 400 trees inoculated in 2015 and 2016 over ten percent showed resistance to TCD indicated by no or small canker size. The results of this project indicate that breeding for resistance to TCD could be a management option for the disease.

Bio: Elisa Lauritzen received her Bachelor's degree from Utah State University in Horticulture in 2013. She is currently a M.S. student in the Biology Department at Utah State University studying Plant Pathology. Her research focuses on evaluation of black walnut (*Juglans nigra*) for resistance to Thousand Cankers Disease as well as cold hardiness testing and evaluation of other desirable horticultural traits.

Elisa Lauritzen, Utah State University, Graduate Student, Biology - Plant Pathology, 5305 Old Main Hill, Logan, UT 84322, (385) 234-0579, elisa.lauritzen@aggiemail.usu.edu, researchgate.net/profile/Elisa\_Lauritzen

### **Lehman, Jerry**

Commercializing the American Persimmon

Abstract: In the 1980's, Jim Claypool, the most prolific breeder of American persimmon known, recognized its potential and wrote "Commercializing the American Persimmon", which was published in Pomona, the magazine of the North American Fruit Explorers (NAFEX). Since Claypool was in his 80's, he was looking for someone to carry on his work. Jerry cloned the best of Jim's 2400 varieties and continued breeding. The work of commercializing the American Persimmon has been continuing, and in 2015 a processor in Indiana using the trade name "Twin Tykes" froze over 10,000 pints selling the entire lot and still not being able to fulfill the market's needs. In 2016 Jerry sold 5,400 pounds of fruit for puree for household use, brewing and wine making and could've sold more. This report includes cultivation and market uses.

Bio: As Jerry neared retirement in the late 1980's he began looking around for a second fun occupation. Jerry wanted to work with and breed fruit trees. In 1989 he met James Claypool, Jerry found his challenge, spent many hours with Jim learning what was unavailable in text books.

In the early nineteen nineties Jerry started collecting pawpaw varieties and using controlled

breeding techniques has developed some worthy pawpaw cultivars winning many awards for biggest as well as best at the Ohio Pawpaw Festival's contests. In 2016 two pawpaws from Jerry's breeding work won 2nd and 3rd place at the 4th International Pawpaw Conference's Best Pawpaw Contest.

Jerry is and has been an active member of North American Fruit Explorers (NAFEX), Northern Nut Growers Association (NNGA) and Indiana Nut and Fruit Growers (INFGA) since the mid 1980's. He served as president of INFGA for 9 years.

Jerry Lehman, 7780 Persimmon St., Terre Haute, IN 47802, (812) 298-8733, [jwlehmantree@gmail.com](mailto:jwlehmantree@gmail.com)

### **Machovina, Heather**

Micropropagation: The Next Approach to Your Edible Production Success

Abstract: Plant micropropagation (also known as tissue culture) is a technique used to grow, maintain and clone plants in a sterile laboratory environment. Just a small amount of tissue from one plant can be used to make clones of infinite numbers over time. The genetics of the clones grown in vitro are identical to that of the original plant used.

The key benefits of tissue culture include consistent quality, juvenile vigor, superior branching and true to type plants. It also allows for a more rapid buildup of plants than what other propagation methods can produce, which can majorly accelerate certain areas of your production needs.

The use of micropropagation services is a great way to generate contaminant-free, elite plants for all types of markets.

Bio: Heather Machovina is currently a Research and Development Specialist and Laboratory Manager for Agri-Starts, Inc., a plant tissue culture company. She has a Bachelors degree in Plant Pathology and Biotechnology from the University of Florida.

Heather Machovina, [HMachovina@agrstarts.com](mailto:HMachovina@agrstarts.com), (407)889-8055

## **Mashburn Chuck**

### Making Syrup from Black Walnut Trees and Local Marketing

Abstract: The presentation will cover Mill Gap Farms experience in tapping walnut trees for sap and cooking the sap to syrup, including basic considerations for production and marketing. A brief introduction to the internet marketing system Locally Grown.net will be presented.

Bio: Chuck and Amy Mashburn operate Mill Gap Farm at Tiger, Georgia, in the Blue Ridge Mountains. Mill Gap Farm applies chemical free and sustainable farming methods to produce common vegetables as well as specialty crops such as Jerusalem artichokes, bitter melon and fuzzy gourd. We also harvest wild berries, walnuts, and hickory nuts on the property.

Chuck Mashburn [chuckandamym@windstream.net](mailto:chuckandamym@windstream.net)

## **Mayberry, Alex**

### Phenotypic and Genotypic Characterization of *Corylus americana* Germplasm for the Development of Hazelnuts Adapted to the Eastern United States

Abstract: *Corylus americana* is native to a wide area of land in eastern North America, bounded by the Rocky Mountains in the west and the Atlantic Ocean in the east, and ranging from southern Canada to South Carolina. The species has been shown to be highly genetically diverse and is adapted to a variety of climates and soils. It is also resistant to the disease eastern filbert blight (EFB) caused by the fungus *Anisogramma anomala*. Unfortunately, *C. americana* has thick-shelled, tiny nuts that make it unsuitable for commercial production. However, it is cross-compatible with the commercial hazelnut *C. avellana* and can serve as a donor for genes for disease resistance, early nut maturity, cold tolerance, etc. As part of the Hybrid Hazelnut Consortium consisting of Rutgers University, Oregon State University, the University of Nebraska-Lincoln, and the Arbor Day Foundation, we have been successfully collecting *C. americana* germplasm since 2009 with the help of partners, colleagues, and the interested public around the USA. Today, we have a planting established in the field at Rutgers University in New Jersey that holds 1,899 seedlings obtained from 126 individual seed lots that span 23 states and one Canadian province. These bushes are being evaluated for EFB response, other diseases and insects, flowering and vegetative bud break phenology, cold hardiness, nut yield, and nut and kernel characteristics. The genetic diversity and population structure of the new collection is also being evaluated using several approaches, including genotyping by sequencing and subsequent SNP analysis, SSR allelic variation, and chloroplast haplotype determination across the large population. Using this multi-faceted approach, we hope that superior, diverse selections can be identified for use in systematic breeding efforts to develop

new cultivars adapted to the eastern USA, especially in respect to consistent cropping in regions with highly variable year-to-year climates.

**Bio:** Alex Mayberry received his Bachelor's degree from Rutgers University in Chemical Engineering in 2013. He is currently a Ph.D student in the Plant Biology Department of the Rutgers University School of Environmental and Biological Sciences. His research focuses on the native American hazelnuts (*Corylus americana*) as a means of improving commercial hazelnut adaptation to disease and environmental stressors. American hazelnuts are resistant to eastern filbert blight, a fungal disease which is the primary limiting factor of hazelnut production in the eastern North America. A major aspect of his current research is phenotypic and genotypic characterization of a diverse collection of American hazelnuts to use as potential genetic donors or pollinizers to commercial European hazelnuts (*Corylus avellana*). Some traits of interest are: flowering and vegetative bud phenology, cold hardiness, nut and kernel size, yield, and chloroplast haplotype.

Alex Mayberry, Department of Plant Biology, Rutgers, The State University of New Jersey, 59 Dudley Road, Foran Hall, Room 178, New Brunswick, NJ 08901 alex.mayberry@rutgers.edu, (856) 981 1912

### **Ozias-Akins, Peggy**

Peanut Breeding, Implications for Farming

**Abstract:** Peanut is a top commodity in Georgia, among crops, second only to cotton. The state produces almost 50% of the nation's crop. Plant breeding has been a significant contributor to peanut yield gains over the last half century and underlies the tremendous success of the crop in Georgia. Traits commonly manipulated through breeding are resistance to diseases or pests, product quantity (yield), and product quality, all of which affect the farmer's bottom line. The breeder's toolbox has greatly expanded with the advent of genome sequencing, and the reduced cost of sequencing has enabled the industry to support genome sequencing of the cultivated peanut and two of its wild relatives. Association of sequence variants with desirable traits facilitates molecular breeding and the combination of multiple traits. Examples from our research on peanut include marker-assisted breeding for nematode and late leaf spot resistance, which has resulted in accelerated cultivar release.

**Bio:** Dr. Peggy Ozias-Akins is a D.W. Brooks Distinguished Professor in the Department of Horticulture, Head of the National Environmentally Sound Production Agriculture Lab (NESPAL) at the University of Georgia Tifton Campus, and Director of the state-wide University of Georgia Institute of Plant Breeding, Genetics & Genomics. Areas of research for which she is internationally recognized are encompassed in the discipline of plant development and include

1) biotechnology for crop improvement, and 2) molecular genetics of apomixis defined as asexual reproduction through seed. Dr. Ozias-Akins has delivered over 100 invited presentations at regional, national, and international meetings. She has served on the editorial boards of four journals. She has attracted consistent funding from federal agencies including USDA-NRI/AFRI and NSF and is active in the Tifton Campus teaching program as professor, faculty mentor, and curriculum committee member. Her outstanding contributions to the field of Agricultural Biotechnology have been recognized with an award of Fellow of the American Association for the Advancement of Science and selection as a Distinguished Research Scientist of the University of Georgia.

Peggy Ozias-Akins, [pozias@uga.edu](mailto:pozias@uga.edu)

## **Powell, Ron**

What's Feeding on My Pawpaw?

Abstract: A myth buster presentation of the many pests (insects & diseases) from ambrosia beetle to the zebra swallowtail caterpillar and everything in between. A pictorial review and commentary of the pests of the North American Pawpaw.

Pawpaw Interspecies

Abstract: A review of the various species of *Asimina* i.e., where they are indigenous and their phenotypes. Historical and current research of hybridizing *Asimina triloba* with other species of *Asimina*. A brief look at the issues associated with hybridizing *Annona* species with *Asimina triloba*.

Bio: Dr. Ron Powell received his PhD in Agriculture Education from Ohio State University. After retiring from teaching high school biology and working as an administrator, Dr. Powell taught Entomology & Plant Pathology at the Cincinnati State Technical and Community College, and Plant Pathology, Plants & People, and Botany at the University of Cincinnati. He has served as an officer in numerous agricultural associations, and is a cooperator in pawpaw research with The Ohio State University, Ohio University, and Kentucky State University.

Dr. Powell and his wife are the owners of a 50 acre farm, Fox Paw Farm, LLC in Adams County, Ohio. They grow over 100 selections of the North American pawpaw, 25 different cultivars of persimmons, about 20 different apples, about 8 different cultivars of Asian pears, several types of jujubes, some Quince, hardy Kiwi, and ready to plant 5 different cultivars of Apricots, a couple of peach trees, several additional plums, several sour cherries and a couple of Cornelian cherries. They also have over 20 different cultivars of hazelnuts, and various Chinese chestnuts, American chestnuts, pecans, heart nuts, walnuts and butternuts.

Ron Powell, (513) 777-8367, [Botrytis@fuse.net](mailto:Botrytis@fuse.net)

## **Savelle, Lindy Lamar**

New Cold Tolerant Citrus for the Southern USA (with Wayne Hanna)

Abstract: Lindy and her husband have planted a commercial grove in Thomas County and a test plot in Mitchell County of citrus trees to include Satsuma oranges, seedless tangerines, lemons, grapefruit, navels, mandarins, blood oranges, thornless limes and kumquats. In addition, Lindy and her brother have built Georgia's first citrus-only greenhouse/indoor nursery, where they are propagating citrus trees for sale to commercial growers and homeowners. They are under contract with the University of Georgia to grow the university's first patented seedless, cold hardy citrus varieties released publicly in November of 2016, as well as UGA's "Cowboy" perennial peanut ground cover.

Bio: Lindy Savelle grew up in Sale City and currently resides in Cotton, Georgia. She retired in 2015 after a federal law enforcement career in the US and abroad of 30 years. Prior to her retirement, Lindy and her husband, Perry, decided they would return to their roots in Mitchell and Thomas counties, where they own two small farms. Part of their plan was to bring their farms back to life, and give back to their communities through the development of alternative niche, yet sustainable agricultural commodities. After researching various crops they decided citrus was the best fit for them and what they could do to stimulate growth in Georgia's agricultural economy. In October of 2016, Lindy was elected to serve as President of the Georgia Citrus Association, and in May of 2017, Lindy was selected to participate in the University of Georgia's Advancing Georgia Leaders in Agriculture program for the 2017-2019 year group.

Lindy Lamar Savelle, [LindyLamarSavelle@gmail.com](mailto:LindyLamarSavelle@gmail.com), [GeorgiaCitrusAssociation@gmail.com](mailto:GeorgiaCitrusAssociation@gmail.com) (850) 830 - 2644.

## **Van Sambeek, Jerry**

Thousand Cankers Disease: What Have We Learned

Abstract: Thousand Cankers Disease was coined after black walnut trees in Colorado were dying from coalescing cankers cause by *Geosmithia morbida*, a fungus carried by the walnut twig beetle, *Pityophthorus juglandis*, that girdled stems of stressed trees during a severe multi-year drought in the late 2000s. Infestations were later found throughout the western US and currently in seven states in the eastern US. I will review what has been learned over the last decade depending heavily on the presentations given at the national TCD Research Meeting

held 13-15 June 2017 as part of the national Walnut Council meeting hosted by the Hardwood Tree Improvement and Regeneration Center at Purdue University.

Bio: Jerry is a Research Plant Physiologist with the USDA Forest Service conducting multidisciplinary research on black walnut and other hardwoods for more than 37 years at Carbondale, IL and Columbia, MO. Jerry started his career doing entomological research for five years with the southern pine beetle and pine susceptibility. In the past, Jerry has talk to our group about tissue culture of walnut; forcing epicormics sprouts for propagation; embryo development in walnut seeds; and intercropping and ground cover management which includes cover crops in plantings and nut orchards. (This is likely Jerry's last professional presentation before he retires, taking him almost full circle starting and ending with a presentation on bark beetles)

Jerry Van Sambeek, Until January 3, 2018: [jvansambeek@fs.fed.us](mailto:jvansambeek@fs.fed.us); 573-875-5341 Ext 233.  
After January 3, 2018: [vansambeekj@missouri.edu](mailto:vansambeekj@missouri.edu); 573-864-8117 (cell)

### **Wallace, Robert D.**

Our Nuts are Bigger: 38 Years Living in a Nut Farm

Abstract: The Dunstan Chestnuts are some of the most widely planted chestnut tree varieties in America today. Started in 1980, Chestnut Hill Nursery was formed to propagate and produce the blight-resistant Dunstan Chestnut, developed by noted plant breeder Dr. Robert Dunstan. These trees have been grown successfully from Maine and Michigan to Florida and Texas. We have learned a number of lessons learned over the years, some of which go against conventional wisdom on what makes a successful orchard crop, and as an addition to the hardwood forests of the eastern U.S. as a tree for attracting game and wildlife.

Propagation of seedlings from a population of known genetic parent trees has proven to be the best method to create a productive orchard, with less variability in nut size and production than from seedlings produced from a diverse set of pollen parents. Spacing, pruning, and harvest will be discussed. Selection of varieties for reforestation that focus on tree form also limit viability for natural regeneration in forests. Marketing is the critical step in creating a successful orchard enterprise. New archeological research suggests that the chestnut forest that was present before colonization of America by Europeans was actively managed by fire and planting by Native Americans.

Bio: R.D. Wallace is the founder of Chestnut Hill Nursery, and a successful business and nursery entrepreneur. He introduced a number of Oriental Persimmons to American horticulture, and selected several varieties of flowering tree species that are grown widely today in the landscape industry. He developed Chestnut Magic, the first wildlife attractant made of chestnuts that is sold in the hunting and outdoor industry. Wallace also received one of the original 5 licenses to

grow medical cannabis in Florida. Wallace's grandfather, Dr. Robert Dunstan, was an early member of NNGA, a founder of NAFEX and a friend of J. Russell Smith. Wallace has been a member of NNGA since the early 1980s, and still owns and manages Chestnut Hill Nursery in Alachua FL.

Robert D. Wallace, President, Chestnut Hill Nursery, 15105 NW 94 Ave., Alachua FL 32615  
website: [www.chestnuthilltreefarm.com](http://www.chestnuthilltreefarm.com) Email: [chestnuthillnursery@gmail.com](mailto:chestnuthillnursery@gmail.com) 1-800-669-2067

## **Wells, Lenny**

### Cultural Management of Southeastern Pecans

Abstract: During the late 1800's landowners began to recognize the potential profit of pecans in the southeastern United States. By the late 1800's, several individuals near Savannah, Georgia had produced and marketed pecans on a small scale. By 1889, there were only 97 acres of pecans planted in Georgia. Between 1910 and 1925 thousands of acres of pecan trees were planted in southwest Georgia. Most of these trees were initially planted as real estate investments rather than for nut production. Thousands of acres were sold in five and ten acre units, primarily in Dougherty and Mitchell Counties, which are still today the hub of Georgia's pecan producing counties. By 1920, Georgia was producing 2.5 million pounds of pecans. Georgia has been ranked as the top state in the nation for pecan production since the 1950s and currently produces an average of 100 million lbs of pecans annually. Georgia pecan orchards may range in size from just a few trees to several thousand acres. There are currently over 170,000 acres in the state planted to pecan with approximately 5000 additional acres added annually. The primary challenge to growing pecans in Georgia and throughout the Southeastern U.S. is pecan scab.

### Bio:

Lenny Wells, Associate Professor, University of Georgia, Dept. of Horticulture, 4604 Research Way, Tifton, GA 31793, (229) 386-3424, [lwells@uga.edu](mailto:lwells@uga.edu)