

The Leaflet

October 2017



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Letter from Our Extension Agent



Dear Master Gardeners,
This is such a busy time for all of you, but I need your help! Now that you have worked all year to help your community, our County, and our State, I need you to report your hours on the Master Gardener website (http://mastergardener.tennessee.edu/tmg_resources/tmg_login.asp).

If you need help with the computer reporting system, please call me to set an appointment to work with you so you get

credit for your hard work (cell: 606-748-7424).

As you know, UT Publication SP635 states the following requirements:

- Intern Training: Complete 40 hours of Master Gardener classes
- First year: Complete 40 Service Hours within a year of completing the Intern Training
- Each year thereafter: Complete 25 Service Hours plus 8 hours of Continuing Education in Horticulture

Thank you very much for your service!

Jeff Smith
UT Extension—Robertson County
Ag Agent & County Director

Report From Fall Festival

By Suzanne Stewart, Cumberland County Master Gardener

It's been a strange year for forecasting the weather day to day. That was true too, the week of the 9th Annual Fall Gardener's Festival at University of Tennessee's Plateau Research and Education Center (PREC), back on August 29th, near Crossville. There was a little weather the two days before, and a little more the two after. But, Fall Fest opened to one of those slightly cooler, misty, first change of season mornings. Daybreak brought easy travels and bright, light breezy skies for 950 folks from 47 counties, including 181 Master Gardeners from 25 Tennessee counties. Smiling, cane wielding volunteers welcomed each arriving car up the long drive way, registration moved



easily with goody bags and trolley style carts standing ready to save steps. So began the adventure.

NEXT MEETING

**Oct. 26, 2017
7 pm**

Speaker:

Kim Hendley

Program:

**Farming in
Robertson County**

The Robertson Co.
Master Gardener Assoc.
meets the fourth Thurs.
of every month.

Meetings are at 7pm
at the UT Extension
Office, 408 Main Street,
Springfield, TN

If you missed it this year, I hope a little word tour will have you anticipating the experience for next year. First, preparation. If you do your homework and look at the CCMGA host site online, you know the line up of the programs and presenters, the times and even the layout of the shady roomy tents. Thirteen subjects were offered over six hours, in five handy locations, many offered twice. So, in a quick study over a cup of coffee you can pretty well plot priorities and strategy to maximize your inner gardener's consumption intentions. It's your day, make it full or leisurely.

I entered with my post-it plan handy, as did my two neighbors so we would go our separate ways and meet up from time to time. I can't report on all the classes, but there was something for everyone, no doubt. Entering the Festival, you'll find garden paths lined with the Plateau Discovery Educational Gardens. Each plot a specialty garden, built over the years by our local Master Gardeners, class by class. A second part of the gardens are the various trial beds where the academics officially test to prove "Right Plant, Right Place". The gardens are in prime condition and have grown into their status as one of Tennessee's celebrated three official botanical gardens. This year, the Gardens have also qualified for designation as a Conifer Garden: so many shades and textures of green. Between the displays of flora, festival booths and display meet the pathways creating a light and festive feel. Garden loving eye candy, was everywhere.

As you move deeper into the gardens, you can't help but be drawn to the grand, spanking brand new pavilion. Under cover there were even more in expo style marketplace and educational displays; here, there, and everywhere were so many beautiful plants for sale. There were great varieties of natives, many specialties, tools, pretties, services, and garden-related organizations.

Over yonder, Chef Dean and Company, did tasty fruit and veggie testings. I was there during the muskmelon ratings—five varieties in five bites. It was a very popular and fun stop. In addition to organizations, sponsors and garden vendors, the popular food vendors made lunch time easy.

And don't forget, the ongoing fancy hayride style tours of the farm. I kept seeing them near the huge field of sunflowers in my side view. It looked beautiful and interesting.

Some of the perennial favorite presenters were there, as well as many new faces. Presentations, materials, and visuals were better than ever. I went for the mix of new and some favorites. Once again, happy surprises happened when someone offered something new, or maybe I was just ready to hear it differently. And as always, it was great to be able to ask in Q&A minutes, those funny nagging questions. Subjects included AgResearch, Rose Rosette, Free Roses, Conifers, Fruits, Nuts and Berries, Autumn Herbs and Pumpkins, Bearded Iris Propagation, Pests and Diseases Management Strategies, Natural Vegetable Growing Practices and the Art and Science of Soil Building, Tree

Maintenance, Monarch Butterflies and Bee Keeping. I wonder what the combined number of years of specialized experience was represented in those presenters?



At the end of the day, our minds were full, and bodies wander weary. We welcomed the trolley ride back to our cars. Fresh with new understandings and comparisons we entertained each other with lively dinner conversation to recap. I imagined similar conversations in many cars full of gardeners, and plants, and pretties, and tools, headed home. I can say, we concurred with the other 900+ participants.

99.5% learned something. 98% are planning to return next year.

NOTE to RCMGA READERS from Leaflet staff: Isn't it great to have gardening friends and relatives who attend TNMG events and report back! We are sorry that this report is "late" but it has us already planning to attend Fall Festival 2018.

Bee Friendly Research Update 3

by Fungi Perfecti

Greetings fellow Fungiphiles and the Bee-Mushroomed!

This Earth Day we're excited to share the latest developments in our Bee Friendly™ Research Initiative, originally unveiled by Paul Stamets during the 2014 Bioneers Annual Conference. For those unfamiliar with the story, our "Bee Friendly" campaign is an initiative created to support the research and development of fungal strategies to improve bee health and offset the use of toxic pesticides.

The devastating phenomenon known as Colony Collapse Disorder was first officially recognized in 2006. Honey bee hives continue to die off at rates of 30–40% each winter. According to the USDA, the winter of 2015–2016 was the worst on record, when up to 44% of hives died (no data is yet available for winter 2016–2017.) This should be concerning to all, as approximately one out of every three bites of food human beings eat comes from a

source that depends upon pollination by bees.

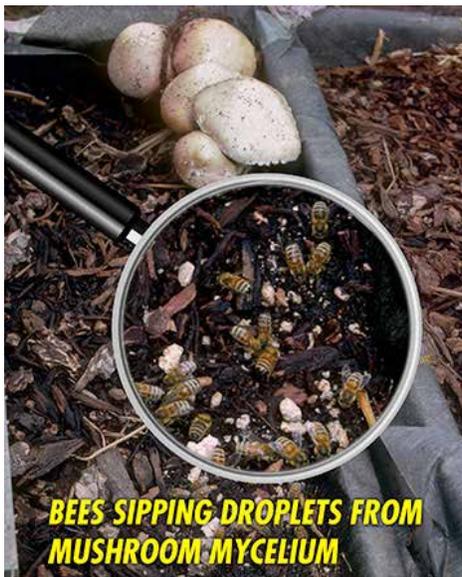
In 2014, Paul Stamets teamed up with the Dr. Steve Sheppard, entomologist and head of the Washington State University APIS Molecular Systematics Laboratory to investigate the potential benefits of exposing honey bees to certain species of fungi. In the initial set of experiments, fungal extracts were fed to bees to determine their effects. The preliminary results suggest that extracts

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of certain polypore mushrooms can increase worker bee longevity and reduce viral burden.

Researchers suspect the nutritional support from fungal extracts is playing a significant role in improving bee health. The sugar syrup bees are typically fed is high in calories but non-nutritious, lacking phytochemicals and micronutrients. Fortifying this syrup with fungal extracts provides a wide assortment of B vitamins and other micronutrients critical for bee health.

A second set of experiments investigated delivery systems and mechanisms of action of *Metarhizium* spp. (a species of entomopathogenic fungi) to control populations of *Varroa* destructor mites, considered to be a major contributor to Colony Collapse. These fungi parasitize *Varroa* mites, greatly reducing them as a threat. (While bees can be susceptible to *Metarhizium*, because they are meticulous groomers, they easily wipe away the *Metarhizium* spores, thus avoiding infection.) Unfortunately, current mite controls often focus on chemical treatment that also harms bees and weakens



their immune systems significantly. *Metarhizium* can be effective against mites and remain mostly harmless to adult bees or brood. Although factors such as temperature of the hive can affect the growth of the fungus and limit efficacy, experiments are underway to overcome this obstacle.

Over the past winter, Bee Friendly research expanded to field testing of our

Host Defense fungal extracts on more than 500 hives here in Washington State. Following this, extracts of Reishi (*Ganoderma lucidum*) and Amadou (*Fomes fomentarius*) were sent to San Joaquin valley in California for distribution during the almond pollination season. San Joaquin Valley is the largest worldwide producer of almonds where every almond tree blooms for approximately 3 weeks each February. During this time, 532 hives were given fungal extracts, making this the largest field study on honey bees in history! Now that the almond bloom is over, researchers from the United States Department of Agriculture are analyzing the results. More information should be available as soon as this summer.

Many ask "What can I do to help?" According to the WSU APIS bee team, the best thing you can do now is to grow more flowering plants to encourage and support your local bee hives. Another important step is to encourage natural decomposition in your environment whenever possible. Fallen logs and old

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Robertson and Cheatham County Master Gardeners and Interns at White House Arboretum Tour



Pictured l-r: Mason and Yolandi Kriek, Randy Allen, Ann Salisbury, Angie Hackney, Tom Salisbury, Mike Glavas, Lynn Stengien, Rene Kriek

stumps become habitats for many organisms, including bees, and the subsequent bloom of mushrooms and other organisms not only act as a source of nutrition for the bees, but help to enhance the biome as a whole. As Paul suggests, we should all start using the mantra “Let it Rot!”

In addition to flowering plants, the presence of live mushrooms might be an important part of the puzzle. Paul Stamets first became aware of this relationship in the summer of 1984, when he observed beds of *Stropharia rugoso-annulata* (commonly called the King Stropharia, Garden Giant or the Wine Cap) on his property attracting bee activity. Paul saw continuous convoys of bees from the hives to the beds, from

dawn to dusk. Upon close examination, he saw bees sipping on the exudates secreted by the mycelium. Much later, the issue of Colony Collapse sparked this memory, and now we may have a significant new defense we can use to help bees.

If you'd like to start cultivating this mushroom species, you can do so in two ways. You can start with an Indoor Mushroom Patch, then transfer the mushroom mycelium to an outdoor bed once it has finished producing indoors, or you can proceed directly to an outside mushroom bed with the Outdoor Mushroom Patch. Both come with a complete instruction booklet for growing (it should be noted that the instructions do not mention bees). Another

option is to grow mushrooms on logs and stumps using our Mushroom Plug Spawn. Our research has shown that extracts of the Reishi mushroom (*Ganoderma lucidum* s.l.) have a significant beneficial impact on bees. Our customer support team is also available by phone (800-780-9126) or email (info@fungi.com) to answer any questions you may have while cultivating.

Our ongoing Bee Friendly initiative encompasses research, development, and outreach and is intended to draw attention to the many ways that fungi may be able to help reverse the devastating declines in the global bee population

Cover Your Soil!

Your vegetable garden is a busy, productive place—for part of the year, anyway. Outside of the growing season, garden soil sits dormant, waiting for your vegetable crops to take their place the following spring. But you don't have to let that garden soil sit empty and unproductive; instead, plant cover crops that can offer myriad benefits for minimal labor.

Cover crops can help reduce weeds, prevent soil erosion, and add organic material to rejuvenate the soil with nutrients. Here are five options:

Annual Rye Grass: Grasses are quick to germinate and generally more effective at controlling weeds than legume cover crops. You can seed annual rye grass among your vegetables or wait until you've harvested your veggies and plant rye grass as a winter cover crop. In the spring, trap the nutrients by cutting and turning under the rye grass to incorporate it into the soil.

Hairy Vetch is commonly used in vegetable gardens and is valued for its nitrogen-fixing ability. It performs well in a range of soil types and *pH* levels. Plant hairy vetch in late summer or early fall, and till it under in spring. Alternately, you can mow it down and plant your vegetables directly in the resultant *mulch* a few weeks later.

Buckwheat: Buckwheat is an effective “smother crop” for controlling weeds and suitable for summer planting and minimizing weeds.

Red Clover: This legume provides ample quantities of nitrogen and valuable quantities of biomass that benefit your garden soil. Seed red clover among your rows of growing vegetables anytime from spring to early autumn.

Winter Rye: Winter rye is a winter cover crop suitable for overwintering in many locations. Sow winter rye in late summer or early autumn after



Red Clover

your vegetables have been harvested, and then watch out! It grows quickly and vigorously, and will resume growth in spring, at which time you can plow it under and put the winter rye biomass to work in your soil.



Meet, Greet, & Eat!

We are meeting with the MG Class of 2017 (and Cheatham County MG and interns) on Tuesday, November 14th, 6pm to welcome them to the MG program, answer questions about Master Gardeners, congratulate them on completion of formal classes. Along with the Cheatham Co. MG, we will supply a lite meal; you are urged to contribute and to attend. We will have a sign-up sheet at the October meeting and further information on arrangements.

Profiles In Gardening:

Sonny Pritchard

I joined the Robertson County Master Gardeners in 2014. Shelley, my wife, had wanted to attend master gardener classes for years. The year she was able to go, there were not enough participants to have the class. So I told her that I would go the next year. I'm glad I did. Projects that I have worked on include the "legacy" bench and planters which are in front of the Extension Office.



Gardening was not completely new to me. My dad was always growing different variety of chilis (peppers) and experimenting with tomatoes and numerous flowers. My grandmother lived in a house in old Greensboro, North Carolina. Her garden was always intriguing as it was more of an English garden with boxwood borders and huge magnolia trees in the yard. She grew horseradish and numerous herbs. Shelley and I have some of her plants growing in our garden.

I am most interested in vegetable gardening and lawn care. Banana trees, elephant ears, and other tropical are my favorite plants.

Although I have lived in the Piedmont area of South Carolina, I moved to Tennessee when I was 16. In addition to gardening I enjoy golf, travel, grilling and then eating.

South Central Growers' Poinsetta Open House Scheduled for November 11th

Get a start on Christmas spirit and attend the annual SCG open house Saturday, November 11th, 10am—2pm. Admission to the greenhouses is free: you can stroll among thousands of holiday plants and have great photo ops for your holiday cards. You can purchase poinsettias, which will benefit the Hero Hunt Inc., a non profit charity in Middle Tennessee that works with military, police, fire/emt and first responders that have been injured in the line of duty.



A SCG Guide describing the Poinsetta growing cycle at last year's open house



A closeup of a huge bed of poinsettias at South Growers

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Upcoming Events

Sep 5- Nov 14	M.G. Classes	Pleasant View
Nov 11	SCG Poinsettia Open House	Springfield
Nov 14	Trees; Kids' Classes	Springfield Library
Nov 14 6pm	Meet, Greet, & Eat	Pleasant View