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# Garden Scoop

## FUNGI

BY K.S.Kennen, MGV




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Hot summer months, with summer rain and higher humidity, mean our environment is just right for fungi to invade plants. Fungus is a pathogen which compromises 85 per cent of all plant diseases. Unfortunately, most of the fungi are microscopic and we can only know of their existence when plants begin to show signs of infection. Most reproduce with spores that can be carried by the wind and water or transferred in soil. Unfortunately, the spores can also be introduced into the plant by animals, workers, machinery, and gardening tools. These microscopic invaders can enter the plant through stomata (small openings in epidermis of the leaves) or through plant wounds caused by insects or man.

Fungal plant pathogen species are primarily in the phyla Ascomycota and Basidiomycota. Ascomycota species are commonly called sac fungi and consist of such fungi as *Diplocarpon rosae*, *Fusarium* spp., *Verticillium* spp., and *Magnaporthe grisea*. Basidiomycota species are commonly called club fungi and consist of such examples as *Rhizoctonia solani* and *Ganoderma zonatum*.

*Diplocarpon rosae*, also known as black spot, is a fungal disease of roses that is worldwide and is characterized by small black spots on the upper surface of rose leaves. Old fashioned roses are noted to be more resistant to this fungus and hybrid teas are more susceptible.



*Fusarium* commonly called fusarium wilt can infect such vegetables as tomatoes, potatoes, eggplant, squash, and broccoli. This fungal disease is characterized by yellowing of leaves, wilting, vascular discoloration, root rot, and finally plant death by clogging and eventually destroying the water conducting tissues of the infected plant.



*Verticillium* causes verticillium wilt and has the same symptoms as fusarium wilt with yellowing leaves, wilted plants, and tieback. Both wilting diseases are soil borne and infect plants through their root system. The main difference is that the pathogen for fusarium wilt is host specific and the pathogen for verticillium wilt has a wide range of hosts.



### Lake County MGV Mission Statement

The mission of UF/IFAS Lake County Master Gardener Volunteers is to assist extension agents by providing horticultural education programs and current research-based information to the public through plant clinics, community outreach and Discovery Gardens.

For more information contact: UF/IFAS Extension, Lake County Office [lakemg.ifas@ufl.edu](mailto:lakemg.ifas@ufl.edu) ▪

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# FUNGI

*Magnaporthe grisea* (*Pyricularia grisea*) is a fungal disease commonly called gray leaf spot and can infect turf grass. The key signs are leaf spots in early summer and pear-shaped spores produced in a gray fuzzy growth microscopic growth when the weather is very humid. This fungus will happen in very shady areas with excess nitrogen. Treat with liquid or granular fungicide at first signs of gray leaf spot. Luckily, this condition should clear up on its own with time and change of season.



The control of black spot on roses starts with removal and disposal of all affected leaves then spraying with a fungicide developed for black spot. Follow directions that are on the fungicide you decide to use. You can reference the tables found on <https://edis.ifas.ufl.edu/publication/PP268> for help in deciding which fungicide to use.

Both wilt diseases, fusarium and verticillium, have no cure and the infected plant should be removed and destroyed if it is diseased. Buying a disease resistant plant is a very pro-active step and will help curtail the introduction of these wilt diseases. Solarizing the soil (<https://edis.ifas.ufl.edu/publication/IN856>) can help to kill the pathogens if it is not possible to remove and replace the soil. <https://edis.ifas.ufl.edu/publication/IN856>.

The second of the two fungi this article addresses is basidiomycota. Basidiomycota species are commonly called club fungi. *Rhizoctonia solani* and *ganoderma zonatum* are two that homeowners may have experienced in their landscape.

St. Augustine brown patch is caused by a *rhizoctonia* species of fungi and results in large, discolored patches of lawn. You can tell if your lawn has this fungus by seeing large circular patches of brown, yellow, red, or orange lawn with grass blades that easily pull away from the plant. Be sure to practice appropriate lawn care to alleviate the infection and spread of this fungus. Be sure to mow at the appropriate height and when the lawn is dry. Clean the mower blade if you do have the fungus to prevent spread. Watering before 8:30 is helpful so the lawn has time to dry out and water only when needed.



Another basidiomycota species is *ganoderma zonatum* that cause butt rot in palms. This is a white fungus that produces enzymes that will rot palms. When the conk forms on the trunk of the palm, you know it has the disease and needs to be destroyed. Be sure to not plant another palm there since the disease is in the soil. Reference <https://edis.ifas.ufl.edu/publication/PP100>.

There are chemical controls that can be applied when the disease is diagnosed but it may take more than one application to eradicate the problem. More information on this can be found on <https://gardeningolutions.ifas.ufl.edu/lawns/problems-and-solutions/large-patch.html>



# Plant Clinic Clatter

By R. Doherty, MGV



## DEAR MASTER GARDENER:

My St. Augustine grass looks like it is turning purple! What is happening?

## DEAR HOMEOWNER:

This is most likely due to over-watering or watering too frequently for short periods (10 minutes 3 times a week), instead of less frequently for a longer period (30 minutes once a week).

If you look on the underside of the blades you will see that the bottom and/or base of the blade is still green. What happens is that water sits on the upper parts of the blades and it's either a fungus or just water saturation that causes the purple color.

Water less frequently and a bit longer so that the water will go deeper into the soil, and there will not be so much water sitting on the surface of the grass all of the time. St. Augustine should heal or grow out and the purple parts will be mowed off. If your runners are also purple, it might take a bit longer to heal. This happened to me over the winter and when I stopped watering and then adjusted my watering schedule, it cleared up.

Other things that could cause purple grass:

- Compacted soil? Lawn should be aerated.

- Fertilizing with too much phosphorous? This could cause the grass to turn purple. Florida is naturally abundant in phosphorous, so it is not needed in fertilizer.

- Bring a soil sample to the Extension Office so a free pH test can be run to determine its phosphorous level. A phosphorous (P) deficiency, which is rare in Florida could be the cause.

For more information refer to:

<https://edis.ifas.ufl.edu/publication/LH010>



## What's Cooking? Someone's in the Kitchen with Mushrooms

by Tamre Parsons, MGV

That mushroom; he's a fun guy (you know, fungi). My research this month took me to South Mill Mushrooms Sales and Bon Appétit sites. I will say that you have to subscribe to get more than 1 recipe from *Bon Appétit* (I didn't though). Here are some things that I learned from South Mill Mushrooms.

### Ingredients 4 Servings

- ¼ cup plus 2 tablespoons olive oil
- 2 ounces thinly sliced prosciutto (about 6 slices)
- 1 pound mixed mushrooms torn into bite-size pieces (such as chanterelles, maitake, oyster, crimini, and/or shiitake)
- 2 medium shallots, finely chopped
- 1 teaspoon thyme leaves, plus more for serving
- Kosher salt, freshly ground pepper
- 1 cup chicken stock or low-sodium chicken broth
- 12 ounces pappardelle or fettuccine
- ⅓ cup heavy cream
- 2 tablespoons unsalted butter

### Nutritional Benefits

- Anti-inflammatory benefits from antioxidants
- B vitamins reduce inflammation and promote heart health
- Potassium helps fluid balance, nerve signals, and muscles
- Vitamin D for bone health
- Beta Glucan enhances immune response, improves cholesterol, and supports heart health
- Phytochemicals help the body ward off toxins

### Directions

1. Heat ¼ cup oil in a large Dutch oven or other heavy pot over medium heat. Arrange prosciutto in a single layer in pot and cook, turning once or twice, until crisp, about 5 minutes. Transfer to paper towel and drain.
2. Heat remaining 2 T oil in same pot over high. Cook mushrooms, tossing occasionally, until browned and tender, 5-8 minutes. Lower heat to medium-low. Add shallots and 1 tsp. thyme, season with salt and pepper. Cook stirring often, until shallots are translucent and softened, about 3 minutes. Add stock and reduce heat to low. Bring to a simmer and cook until only a thin layer of stock coats bottom of the pot, 5-7 minutes.
3. Meanwhile, cook pasta in a large pot of boiling, salted water, stirring occasionally, until very al dente, about 3 minutes less than package directions.
4. Using tongs, transfer pasta to pot with mushrooms and add 1 cup pasta cooking liquid. Crumble half of prosciutto into pot. Increase heat to medium, bring to a simmer, and cook, tossing constantly, until pasta is coated, about 1 minute. Remove from heat, add butter, and toss to combine. Taste and season with salt if needed.
5. Divide pasta among bowls. Top with more thyme and crumble remaining prosciutto over; season with pepper.



### Nutrition Per Serving

Calories (kcal) 680 Fat (g) 36 Saturated Fat (g) 12 Cholesterol (mg) 50  
 Carbohydrates (g) 70 Dietary Fiber (g) 1 Total Sugars (g) 6 Protein (g) 18  
 Sodium (mg) 460

# Treemendous: Ganoderma Butt Rot In Palms

BY: J. Daughtery, RHA

Having a fatal palm disease diagnosis is always difficult to deal with. Palm removal (stump and all), as soon as possible, is recommended to prevent the disease spreading further. Most palm diseases do not remain active in the soil, allowing you to plant a new palm to replace the diseased one. Ganoderma butt rot is an exception. The fungus (*Ganoderma zonatum*) remains in the ground after removal, leading to the death of any future palm planted in that location.

In general, butt rot occurs in the lower 4-5 feet of the trunk as the cellular lignin is digested. Lignin is an important part in plant cell wall. As it is digested, the trunk becomes weaker. This greatly increases the chance of the palm falling. As the palm declines, you may notice wilting or a general decline in the overall appearance. While not always obvious in a butt rot case, a conk (mushroom) is often present on the lower portion of the trunk. If seen, remove the palm as soon as possible. Be sure to remove as much of the stump and roots as you can. If the fungus is allowed to produce more conks, the spore can spread to other areas.

The cause of butt rot is unknown. Palms in every environment from natural, to cultivated, from little care to the most intense fertilizing, have been seen with the disease. While this can impact any palm, it does not harm any other plants. If you have had a palm removed due to Ganoderma butt rot, you can plant any non-palm to replace it.



Credit: M. L. Elliott, UF/IFAS



For more information refer to <https://edis.ifas.ufl.edu/publication/PP100>

# Garden of the Month:

Congratulations to Daun Barrett for recognition of the recently created UF research flower beds. She is fortunate, along with the help of Ron Musgrave, to have planted several beds with new varieties of experimental begonias. These are being developed in partnership with the Mid-Florida Research Center and are part of a grant to develop begonia varieties that will grow well in full sun. This has been a true test these past months with our record temperatures. Look at the pictures to see how well these beauties are surviving the heat and full sun.



## Discovery Gardens

Please plan a visit to over twenty different gardens located at 1951 Woodlea Road in Tavares. The hours are Monday through Friday and the third Saturday of the month from 9 a.m. until 4 p.m. Just like your yard, Discovery Garden changes with the seasons and will reveal something new with each visit. Come see the changes in the garden.

### **Master Gardener Volunteer Plant Clinic**

Bring your plant, insect, and soil problems to our Plant Clinic for advice Monday and Wednesday 10:00 a.m. to 2:00 p.m. The plant clinic is staffed by volunteers. Please call ahead at 352-343-4101 to be sure that someone is in the clinic to assist you with your question.

You may also send photos of your local problems to Jamielyn Daugherty at [jdaugherty@ufl.edu](mailto:jdaugherty@ufl.edu) or to the plant clinic at [lakemg@ifas.ufl.edu](mailto:lakemg@ifas.ufl.edu).

# Honey Bee Day

BY: R. Doherty



## August 19, 2023:

Celebrated every third Saturday in August, World Honeybee Day is a holiday that reminds us of the beauty and value of honeybees.

It's sobering to realize how fragile their existence is. Honeybees are eusocial, exist in a colony of thousands, and live in a structure built out of wax. They are generalist pollinators and very protective of their colony which they defend with their stingers and their lives.

Here are some facts about honeybees:

- About 20,000 species of bees exist; only eight species of honeybees are recognized.
- Brought over from Europe to North America so they are non-native. There is only one honeybee species in Florida, the non-native European honeybee, *Apis mellifera*
- USA honeybees valued at > \$15 billion; we need specific conservation efforts for honeybees
- During a nectar flow, one honeybee hive may contain over 80,000 bees and most of them will be gathering nectar and pollen.
- Honeybees communicate by dancing. They can tell the other bees the location of a blossom over 2 miles away or tell the queen the location of a new possible home during a swarm.
- Honeybee hives are made up of one queen, a few drones, (males who only mate and eat) and tens of thousands of worker bees (females who do all the work).
- Honeybee queens can live up to 3-4 years while the drones and workers usually live only 25-30 days - but can live up to 6 weeks.
- Honeybee queens mate only once at exactly 20 feet above the ground with a drone from another hive and can produce as many as 2,000 eggs a day during a nectar flow and over 1,000,000 during her lifetime.
- Drones only have one job - mate with a queen from another hive and then die during this process. All drones are thrown out of the hive during the winter to preserve the honey and pollen for the workers to survive during the cold months - not a good retirement plan.
- The Department of Agriculture is working on a super honeybee that will be extremely resistant to all mites.
- Honeybee hives multiply by swarming. A process, where when the hive is overcrowded, the queen leaves with half the workers and finds a new place to live. The old workers put royal jelly on a half dozen pupae to make new queens. When the first one hatches, she kills all the others before they hatch. Only one queen is allowed per hive!

# Events

## **Fridays In the Garden**

August 4, 2023, 12 – 1 pm Online Zoom

Join Seminole County agent Kaydie McCormik and Lake County Agent Jamie Daugherty as they cover growing a Food Forest in this online class. They will cover edible tree options for the landscape..

Register online at <http://bit.ly/1frigarden>

## **LIBRARY CLASSES**

August 13, 2023, 2 – 3 pm

Backyard Habitat\_ Free and no registration

Mt. Dora Public Library

Wildlife comes in many forms. You can create a habitat that provides many needed resources for wildlife, from birds to butterflies and much more.

August 15, 2023, 12 – 1 pm

Backyard Habitat\_ Free and no registration

Eustis Public Library

Wildlife comes in many forms. You can create a habitat that provides many needed resources for wildlife, from birds to butterflies and much more.

August 16, 2023, 2 – 3 pm

Fall Vegetable Gardening. Free and no registration

Tavares Library

Basics of what and how to plant vegetables in the fall.

August 17, 2023, 2 – 3 pm

Succulents Free and no registration

Marriane Beck Library

Succulents require minimal care and come in many shapes and sizes. Learn more about these fascinating plants and how to add them to your plant collection.

An Equal Opportunity Institution. UF/IFAS Extension, University of Florida, Institute of Food and Agricultural Sciences, Andra Johnson, Dean. Single copies of UF/IFAS Extension publications (excluding 4-H and youth publications) are available free to Florida residents from county UF/IFAS Extension offices.