



Shades of Green

Athens-Clarke County Agriculture and Natural Resources E-Newsletter

July 2022

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A note from Athens-Clarke County Agriculture & Natural Resources

Hello Readers!

Summer has arrived and there are dozens of delights to discover in the garden. We would love to have you visit the Demonstration Garden here at the ACC Extension Office. You will find inspiration and wonder around every turn of the garden path.

See picture below from the Demo. Garden on June 23rd.

We are looking forward to our [July Green Thumb Lecture](#), on Wednesday July 13th, where we will focus on **Water-Wise Gardening**.

Are you new to this e-newsletter? Make sure to take a look at our [“Stay in the Loop!”](#) and [Local Farmers Market](#) pages to find out about local events and the farmers markets you can visit this season.

We hope you enjoy this month’s issue of *Shades of Green*.

Happy Gardening,
Athens-Clarke County Agriculture and Natural Resources



Leafminers deface Oak Leaves across north Georgia

By Garrett Hibbs



Solitary oak leafminers feed on oak leaf tissue, creating blotch-like mines just under the surface of the leaf. Extension agents report seeing the most damage on chestnut oaks (left) and white oaks (right) each year.

“What’s wrong with the leaves on my oak tree? Is my tree dying?”

Over the past several weeks, [University of Georgia Cooperative Extension](#) offices across north Georgia have been flooded with calls from residents asking about their oak trees. Whether white, red or chestnut oaks, the question has been the same.

Oak leaf samples observed by county Extension agents have exhibited foliage with large irregular blotches on the leaves. New damage can appear light tan in color, with older damage typically turning into large brown blotches. Most residents who spot this damage want to know if their tree has a disease that is killing it.

But this is not a fungal pest infecting their trees. This damage is caused by an insect pest called the solitary oak leafminer.

If you take a moment to inspect the foliage of a nearby oak tree (especially white oaks and chestnut oaks) you can easily notice the damage caused by the solitary oak leafminer. Nearly every year, oak tree leaves all over north Georgia are fed upon by this insect pest. While this typically happens in August in our area, the solitary oak leafminer has appeared early this year and in greater numbers than previous years.

Identifying the pest

Solitary oak leafminers, or *Cameraria hamadryadella*, are tiny caterpillars about a quarter-inch long that, up close, resemble a rattlesnake’s rattle.

They are called leafminers because they feed between the outer layers of oak leaves, forming irregular shaped blotches on the foliage. Each blotch that you see on the leaf is caused by a single leafminer. The adult form of this pest is a very small silver-colored moth with tan blotches on its wings.

Adult moths emerge sometime in spring, mate, then lay eggs one by one on the surface of the oak leaf.

Once their eggs hatch, larvae enter between the layers of the leaf. From there, the caterpillars feed between the layers of the leaf creating the blotch-like damage that later becomes noticeable. Following the feeding stage, these larvae will spin a cocoon and pupate within the confines of the leaf.

It is possible to have two generations of the insects each year. The later generation will form a pupa and then reside in the fallen leaves over the winter until the following spring when they emerge and the cycle starts all over again. Leafminer damage control

Before you grab a backpack sprayer and start climbing a tree, it is good to know that while oak leafminer damage may look unattractive, it is seldom of much concern to the health of your tree.

When the damaged leaves shed this fall, the new growth next spring will come back with a fresh start. If a heavily damaged leaf drops early, it will be replaced by a new one.

If you want to take action against this pest, you can rake the fallen leaves and dispose of them. This is helpful because the insect often survives

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Leafminers deface Oak Leaves across north Georgia (continued)

over the winter in the fallen debris.

If you dispose of the fallen debris, you will help reduce the oak leafminer population and lower infestations for next season.

For help diagnosing plant pests or diseases in your landscape, contact your [local UGA Extension agent](#).

Garrett Hibbs is the Hall County Extension coordinator and Agriculture and Natural Resources agent.



Nearly every year, oak tree leaves all over north Georgia are fed upon by solitary oak leafminers, pictured here.

By Cal Powell

Foodborne botulism can be prevented with proper canning techniques and equipment that prevent contamination, according to UGA Extension food safety specialist Carla Schwan.



As home canning season approaches, a University of Georgia food safety expert stressed the need for proper precautions to avoid foodborne illness.

A recent death in Washington state was attributed to botulism, a toxin that is a byproduct of the heat-resistant spores of a bacterium called *Clostridium botulinum* that likely originated from a home-canned food.

If low-acid foods are not processed properly, the spores survive and convert into growing cells. As the cells grow and multiply, they produce a neurotoxin that can lead to serious illness and even death.

While the number of cases of foodborne botulism is not high relative to other pathogens like *Salmonella enterica*, the case fatality rate is significantly higher.

“Without the anti-toxin and respiratory support, death is likely,” said [Carla Schwan, UGA Cooperative Extension](#) food safety specialist and director of the [National Center for Home Food Preservation](#).

Health departments reported 242 cases of botulism to the Centers for Disease Control and Prevention in 2018, the most recent numbers available.

Foodborne botulism can be prevented with proper canning techniques and equipment that pre-

vent contamination, Schwan said. She recommends following these three steps when canning food at home:

Follow research-based recommendations and validated recipes

Schwan recommends following information from the National Center for Home Food Preservation as well as the [United States Department of Agriculture Guide to Home Canning](#) for best practices.

“These sources provide current research-based recommendations for most methods of home food preservation,” Schwan said. “Rigorous research processes are in place to ensure that all published recipes are validated to ensure consumer safety. It’s important to highlight that all procedures are intended to be followed as tested and recommended with regard to recipes, food preparation directions, jar sizes, jar filling methods and management of the canner as described in the resources provided.”

Determine the proper canning method

The acidity of foods will determine what canning method you can use. Low-acid foods such as seafood, poultry, milk, red meats and fresh vegetables except for most tomatoes do not have enough acid to prevent the growth of the bacteria.

The *Clostridium botulinum* spores that germinate into growing cells which then produce the toxin will survive for hours even in boiling water.

“All low-acid foods should be processed under a pressure canner operated at 10-15 PSI (pounds per square inch) that allows the temperature to reach 240 to 250 degrees Fahrenheit,” Schwan said. “The processing time may vary from 20 to 100 minutes depending on factors such as altitude, size of jars, type of pack, density of food and more.”

High-acid foods such as fruits, pickles, marmalades, jams and jellies, can be processed using a boiling-water canner. The processing time for high-acid foods may vary from five to 85 minutes.

“When you decide to start canning, make sure you use the correct equipment and methods,” Schwan said.

The presence of botulinum toxin cannot be detected by sight or odor.

“Smell and looks are no indication that the food is safe if under-processed and low acid,” Schwan said. “However, if you see signs of spoilage, it could indicate the food was under-processed and potentially contaminated with botulinum toxin.” Signs of spoilage include bulging lids, leaking seals, spurting liquid and cotton-like mold growth (white, blue, black or green) on the top food surface and underside of the lid.

Never taste food to determine whether it is safe to eat

“When in doubt, throw it out,” Schwan said. Schwan noted that the observance of [World Food Safety Day](#) on June 7 represents an opportunity to highlight the necessity of safe handling of food. This year’s theme is “Safer Food, Better Health.” “Consumers have the power to drive change and decrease the number of foodborne illnesses by handling food safely and implementing food safety practices in their daily lives,” she said.

Cal Powell is the director of communications for the University of Georgia College of Family and Consumer Sciences.

UGA Horticulture Professor receives Georgia Organics 2022 Land Steward Award By Emily Cabrera

Horticulture Professor Juan Carlos Díaz-Pérez (right) stands in the field with late friend and mentor Sharad Phatak, who is regarded as a pioneer for sustainable agri-



culture (cover crops and conservation tillage) in south Georgia. Phatak, who was also a professor of horticulture at UGA-Tifton, received the Georgia Organics Land Steward Award in 2002.

For nearly three decades, [Juan Carlos Díaz-Pérez](#) has been contributing to the field of sustainable vegetable production, focusing on organic agriculture as a professor in the University of Georgia [Department of Horticulture](#). This month, [Georgia Organics](#) is recognizing his work with the [2022 Land Steward Award](#).

The award recognizes an individual who has made “significant commitments to the tenets of organic agriculture, including soil fertility, biodiversity, on-farm recycling and water quality.” Díaz-Pérez, a native of Mexico, studied agriculture and plant sciences at the University of Guadalajara and received his master’s and doctorate in plant physiology from the University of California, Davis. He worked as a professor in Mexico before joining UGA’s [College of Agricultural and Environmental Sciences](#) in 1998.

[UGA Tifton campus](#) Professor Díaz-Pérez spoke with UGA integrated pest management communications coordinator Emily Cabrera about

UGA Horticulture Professor receives Georgia Organics 2022 Land Steward Award (continued)

the award and his career.

What does winning this award mean to you?

The Land Steward Award was established by Georgia Organics to recognize someone who has made substantial contributions to the organic agricultural movement in Georgia, so I am very thankful that they thought of me.

I have enjoyed my collaborations and have learned so much from working with them, so I appreciate that they recognize my work.

How did you get into this line of research?

When I was in college, I used to read books and magazines on organic gardening and organic agriculture. I became interested in the connection between plants, the soil and the larger environment. Agriculture is what feeds us. The most basic thing we need as humans is food. To me, research is an invitation to be challenged; it's continuous.

We just have to keep our eyes open to ascertain what nature is trying to tell us. To contribute to growing good food using sustainable methods was something I really wanted to do.

Your research interests are vast — how would you define your work?



Habanero peppers grown under a shade net with plastic mulch at the UGA-Tifton Horticulture Farm.

I work on different production systems, from conventional to organic and everything in between. Organic fertilization of crops is one of my big research areas. The other, which is probably the most profound, is the use of plasticulture technologies, such as plastic mulch, shade nets and high tunnels.

Throughout my career I have seen the need to improve the way we manage the technology behind plasticulture. There are many benefits to using plastic in both organic and conventional systems but especially for organic growers.

To be able to suppress weeds without chemicals is one of the biggest benefits of using plastic mulch. I've also been working on biodegradable mulches that can degrade in the field. We're just finishing up with trials from this winter, and the biodegradable mulches seem to be holding up reasonably well. There is still a lot to be answered with this technology, but I think we're moving in the right direction overall.

What has been your biggest motivation over the years?

I think my biggest motivation is to have a type of agriculture that is both safe and profitable for farmers and farm workers. Farm workers are often overlooked for their contribution, but I think we need to recognize that their labor is valuable. Farmers and farm workers should be able to work in safe and healthy environments, and I hope that some of my work improves farming as a profession while simultaneously benefiting the environment.

What challenges have you faced?

There have been many, but one of the most practical challenges has been limited access to funding that supports this line of research. I have been able to accomplish a lot, but I assure you if I'd had access to more funding I could have done so much more.

According to Georgia Organics, "Land Steward Award winners not only foster a better environment through the soil, but through their larger community through leadership, education and outreach."

UGA Horticulture Professor receives Georgia Organics 2022 Land Steward Award (cont.)

But I do what I can with what I have and hopefully it's been helpful in the grand scheme of things.

What has been the most rewarding part of your work?

It is a very special moment when you have growers come to tell you how much they appreciate what you have done.

When I see they have used some of the information I developed or helped develop, that's a very nice moment to behold.

Ultimately we are supposed to be servants, we are serving people of Georgia and the country, and the world in reality, but the people of Georgia first. So when someone thanks me, that's the best award I can get.

What do you think will be your legacy?

Hopefully I have contributed to making a more sustainable agriculture — to make at least a small contribution, because I don't see any other way forward for us as a species.

With climate change, with environmental degradation, we already see indications that we need to change our ways of living and working, and that includes agriculture.

We must improve our sustainability. I hope that some of what I have done helps us bestow the soil to our children in a better condition than we received it.

Emily Cabrera is the public relations coordinator for the Integrated Pest Management program at the University of Georgia.



Athens-Clarke County Extension
Virtual Green Thumb Lectures
2022 Free Monthly Gardening Class Series



July:

Water-Wise Gardening

- Planning a water-wise landscape
- How to keep your plants healthy while conserving water
- Drip irrigation basics
- Xeriscaping

WHEN:

Wednesday, July 13th, 6:00-7:30 pm

WHERE:

ONLINE via Zoom.com

Specific link to join Zoom meeting will be sent to the email you register with.

Gardeners of all experience levels are welcome.

TO REGISTER:

Registration is required.

Please register by July 12th by visiting www.accgov.com/gardening

For questions: Contact
Laura Ney, Extension Agent at
706-613-3640 & lney@uga.edu, or
Cari at cmisseri@uga.edu



**UNIVERSITY OF
GEORGIA**
EXTENSION



*The University of Georgia is committed to principles of
equal opportunity and affirmative action.*

Stay in the loop! (local or online activities and events)

Athens Farmers Market

Wednesday Markets

from April 6th until November 16th
from 5 pm until 8 pm.

Markets are located at **271 W Hancock Ave in the outdoor space of Creature Comforts Brewery**. Markets are rain or shine.

Star Spangled Classic

Celebrate 246 years of American independence with a fireworks display at the Star Spangled Classic on Saturday, July 2!



The fireworks display will be launched at approximately 9:30 p.m. from Athens Ben Epps Airport. The display will be viewable from many locations around the Lexington Road, Cherokee Road, & Gaines School Road intersection as well as two locations provided by Athens-Clarke County.

The State Botanical Garden of Georgia's

Sunflower Concert Series is returning this summer, offering an opportunity for the community to enjoy music in the garden. The concerts, set in the Flower Garden, offer visitors an unparalleled experience, with some of Athens' finest musicians performing in a beautiful horticultural setting.

July 12, 7 pm - 9 pm

Contact the State Botanical Garden of Georgia by emailing garden@uga.edu

or calling 706-542-1244.

- Check out their [event calendar](#) for more offerings.

UGA Durham Horticulture Farm

Open House is

July 7th from 6-8 pm.

“The University of Georgia’s Durham Horticulture Farm (or the Hort. Farm as we commonly refer to it) is a 90-acre/36.4 ha. facility located in Watkinsville approximately 10 minutes from campus. The farm serves as a living laboratory for faculty, graduate students and undergraduates of UGA to conduct research in horticulture as well as other disciplines.

The UGA Durham Horticulture Farm

1221 Hog Mtn. Rd.

is not open to the public except during special events or open houses. “

UGA Extension offices around the state are working hard at developing quality online presentations on various topics.

Visit the UGA Extension [event calendar](#) to see events happening local to our county as well as virtual opportunities.

Local Farmers Markets

The **Athens Farmers Market** is taking place on Saturdays from 8am-12pm at Bishop Park. Make sure to visit [their website](#) for updates and details.

Also at **Creature Comforts Brewery**

271 W. Hancock Dr. Athens

on **Wednesdays from 5-8 pm.**

Find them on Facebook: [@AthensFarmers-Market](#)

Follow them on Instagram:

[@athensfarmersmarket](#)

West Broad Farmers Market

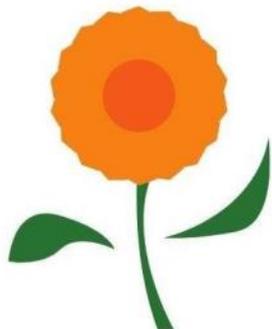
Online ordering with pick-up and delivery options are available on Saturdays.

Visit [their website](#) to find out how to order online.

Find them on Facebook:

[@WestBroadMarketGarden](#)

MARIGOLD



MARKET

The **Winterville Farmers Market** is taking place on Saturdays from 10am-2pm at Pittard Park. Visit [their website](#) for more information.

Find out more on Facebook:

[@marigoldmarketwinterville](#)

Instagram: [@marigoldmarketwinterville](#)

Join Athens-Clarke County 4-H!



Students in 5th - 12th grades in Athens-Clarke County can sign up for 4-H now. The mission of Georgia 4-H is to assist youth in acquiring knowledge, developing life skills, and forming attitudes that will enable them to become self-directing, productive and contributing members of society. 4-H meetings will look different this year and are online. There is no charge to be a member or participate in a competition.

To start your 4-H Adventure e-mail the ACC 4-H Agent, Elizabeth Conway, at ebarber@uga.edu today!



Virtual 4-H Programs can be viewed on the ACC 4-H website:

<https://tinyurl.com/acc4hvirtual>

The University of Georgia is committed to the principals of equal opportunity and affirmative action.





Concerned about the state of your garden?

Are weeds taking over your landscape?

No need to fear, Clarke is here!

Follow @gardenwithclarke on Instagram  and learn how to battle pests, identify weeds, build your soil and so much more as you garden alongside Clarke, Athens-Clarke County's super gardener!



gardenwithclarke
UGA Extension Athens-Clarke County





Helpful resources online:

[Find My Local Extension Office](#)

[Bugwood— Pest Images](#)

[Landscape Alerts Online](#)

[Georgia Turf](#)

[Pest Management Handbook](#)

[Pesticide Applicator Info](#)

[Free Online Webinars](#)

[SE Ornamental Horticulture Production & IPM Blog](#)

[UGA Center for Urban Agriculture](#)

[Georgia Certified Plant Professional](#)

[Extension Publications](#)

Athens-Clarke County Extension Agriculture and Natural Resources

Mission Statement

The UGA Athens-Clarke County Extension's mission is to respond to the people's needs and interest in Agriculture, the Environment, Families, and 4-H/youth in Athens-Clarke County with unbiased, research-based education and information.

Visit us online:



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