

MARKET BULLETIN

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ACRE AWARDS \$150K IN FUNDING TO 9 AGRIBUSINESS ENTREPRENEURS

BY SAMANTHA DAY

The South Carolina Department of Agriculture's Agribusiness Center for Research and Entrepreneurship (ACRE) has awarded nine entrepreneurs a share of \$150,000 for their innovative agribusinesses.

"ACRE does a phenomenal job of helping homegrown agribusinesses advance their operations through funding and industry connections," said Commissioner of Agriculture Hugh Weathers. "I look forward to seeing how these entrepreneurs' success impacts South Carolina's agriculture industry."

Fourteen finalists pitched their business plans to a panel of three judges, who selected nine winners based on their business plans, a five-minute video pitch, and their need for capital. This year's group of awardees represent diverse business ventures from seven South Carolina counties:

1. **Earth People Farms** in Beaufort County is owned by sister and brother duo Najmah and Glen Thomas, whose recently developed EPFarmacy line of products include a collection of herbs and herbal products in the tradition of their African and Gullah/Geechee heritage.
2. Harleston Towles is the owner of **Rooting Down Farms**, **The Twenty Bag**, and his newest business venture, **Sandy Point Citrus**. Using an innovative technique, Towles plans to grow specialty citrus fruits including Meyer lemons, ruby red grapefruits, and satsuma mandarin oranges in Charleston County.
3. **Whippoorwill Farms** SC is a biodiverse, regenerative farm located in Jasper County. Marissa Paykos owns and operates this 40-acre farm and agritourism destination that uses organic practices to raise pork, chickens, eggs, and vegetables.
4. On a 142-acre farm in Charleston County is **Lightning Rock Land & Cattle**, a veteran- and woman-owned, family operated, and Homegrown by Heroes-



certified farm. Wife and husband team Corrine and Trey Wright focus on land regeneration, carbon sequestration, and raising heritage breed cattle in an environmentally friendly way.

5. **Rebecca Farms** in Florence County grows high-quality oyster and shiitake mushrooms at an affordable price. Since 2010, Jay and Rose Lewis have worked to build a farm that is vertically integrated, meaning everything is produced in-house.
6. Located in Dorchester County is **Rita's Roots Backyard Harvest**, owned and operated by Rita Bachmann. What began in 2011 as an organic garden consultation service has grown into a full-service operation with the addition of a nursery division that supplies high-quality, seasonally appropriate vegetable, cut and pollinator flower and herb plants.
7. **Feast & Flora** is a woman-owned commercial cut flower farm operating on Wadmalaw Island, as well as a new brick-and-mortar design studio located in Charleston. Capitalizing on the talents of owner and lead designer Laura Mewbourn, Feast & Flora has become the only Lowcountry flower farm to offer full-service design and the only South Carolina flower farm with a retail storefront.
8. Located on a 7-acre farm in Pickens County is **Rambling Rosa Farm**. Owned and operated by Brittany Arsiniega, Rambling Rosa grows diversified vegetables using organic methods, rescues farm animals, and shares a love for plants and animals with the community through product sales, educational classes, and community events.
9. **The CoffeeLady31**, is a family-, minority-, and woman-owned business that began operations in a home kitchen in Spartanburg County. Cecelia Miller's business now consists of a mobile coffee truck that offers fresh-roasted coffee and espresso, and an apothecary and herb farm.

SCDA founded ACRE in 2018 to help identify and nurture new ideas and businesses in the Palmetto State's agribusiness sector.

For more information, visit acre-sc.com/programs or contact Executive Director Kyle Player at 803-734-2324 or kplayer@scda.sc.gov.



COMMISSIONER'S CORNER

HUGH E. WEATHERS

SOUTH CAROLINA
COMMISSIONER OF AGRICULTURE

ACRE IS A SUCCESS

Back in 2017, the South Carolina General Assembly told us they wanted to do more to promote agriculture innovation throughout South Carolina. They set aside some funding, and we used it to create the Agribusiness Center for Research and Entrepreneurship at the South Carolina Department of Agriculture, more easily known as ACRE.

In the five years since, we've:

- Hosted agricultural workshops for 1,300 state residents
- Provided intensive agribusiness training to 86 entrepreneurs
- Given grants totaling \$845,000 to 66 entrepreneurs
- Funded 24 major, industry-driven research projects
- Worked with people in every South Carolina county

The goal of the program is to help South Carolina farmers prosper. And that's exactly what it's doing. Though the Curriculum program for beginners and the Advanced Entrepreneurship grants, we are nurturing small agribusinesses in the state so they can sustain not only the people who run them, but future farmers as well. As we diversify the crops grown in this state and the people who grow them, we help ensure a future for farming.

Take Covered in Cotton, one of our early grant recipients: The Woodard

family has taken their cotton, generally sold on the international market, and localized the supply chain to create their own beautiful textiles using cotton grown on their South Carolina farm. ACRE helped them expand their product line. That's not just a good story – it's the kind of innovation we need to help our agribusiness industry. My last two granddaughters came home from the hospital in a cotton blanket made by the Woodards.

I'll give you another example: The Nance family used ACRE funding to develop their creamery. As the dairy industry continues to suffer, farms that can create their own products and sell directly to consumers are managing to succeed. The Nance have pivoted to bottling and selling their milk in their own community, helping show other dairies the way forward.

I'm so proud of what we've been able to do with the ACRE program. We look forward to the applications each year. You can read about the latest winners elsewhere in this issue.

By the time this issue hits your mailbox or inbox, the Fourth of July will have passed, but I want to take a moment to recognize the freedoms we enjoy in this country. I hope you thought about that while grilling a burger or sampling a South Carolina peach or watermelon. Have a happy July.

Hugh Weathers

UPCOMING EVENTS

Watermelon Field Day

July 14 • 8 am – 3 pm

The field day will begin with registration at 8 am at the office complex at EREC. At 8:15 am, an indoor session will be held in the EREC auditorium. At 10 am we will go to the field to look at research projects and variety trials and continue discussions. Pesticide License credits will be offered. Lunch and further discussion will follow the field tour.

Edisto Research and Education Center

64 Research Road, Blackville

Contact: Gilbert Miller

803-284-3343 • gmlr@clemson.edu

clemson.edu/cafls/research/edisto

Pageland Watermelon Festival

July 15 – 16 • 9 am – 5 pm

Live music, a rodeo, rides, vendors and more. It's free to attend, but tickets are required for rides. Also, enjoy the Melon Mile 5K, the Watermelon Festival Car Show, the Miss Pageland Watermelon Queen, and much more. The two headlining bands are Chairmen of the Board (Friday) and Tru Sol (Saturday).

Corner of Pearl Street and McGregor Street, Pageland

843-672-6400 • timgriffin@pagelandchamber.org

facebook.com/pagelandchamber.org

South Carolina Peach Festival

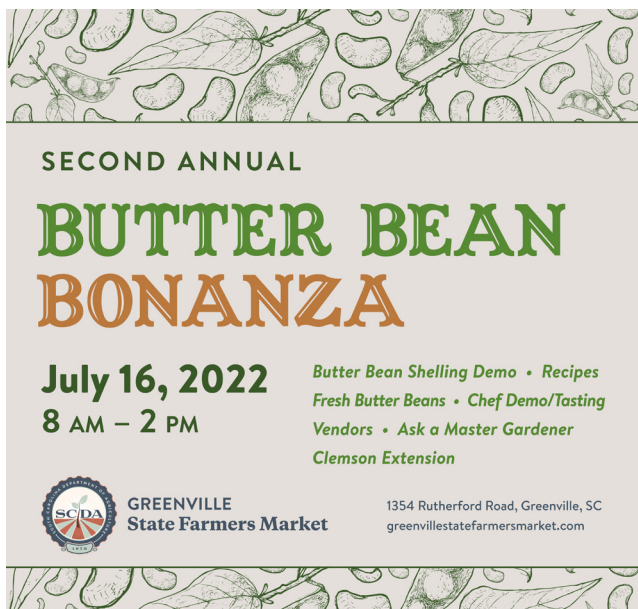
July 15 – 18

South Carolina's salute to the peach. There's something for everyone to enjoy at this year's festival. The South Carolina Peach Festival started out as a weekend event in 1976 and is now being recognized by The Southeast Tourism Society as one of the Top 20 events in the Southeast during July. A 4-day event with carnival, parade, food vendors, arts and crafts, pageant, live music and entertainment.

110 Railroad Ave, Gaffney

thesouthcarolinapeachfestival@yahoo.com


southcarolinapeachfestival.weebly.com



SECOND ANNUAL
BUTTER BEAN BONANZA

July 16, 2022
8 AM – 2 PM

Butter Bean Shelling Demo • Recipes
Fresh Butter Beans • Chef Demo/Tasting
Vendors • Ask a Master Gardener
Clemson Extension

 GREENVILLE State Farmers Market
1354 Rutherford Road, Greenville, SC
greenvillestatefarmersmarket.com

Palmetto Palate

July 21 • 6 pm

SCFB's annual fund-raising event – The Palmetto Palate – is back for 2022. The event will bring in chefs from local restaurants and pair them with farmers from across South Carolina to create tasty tapas that brings the farm-to-table movement to life. The Palmetto Palate will also have a silent auction with local products donated by Farm Bureau members and County Farm Bureau offices. Proceeds from the event will go to benefit the SCFB Education Foundation. Cost: \$60 in advance or \$75 at the door and include all food and drinks.

SC State Museum

301 Gervais Street, Columbia

eventbrite.com/e/2022-palmetto-palate-tickets-334590267497

SC Beekeepers Association Summer Conference

July 21 – 23 • 8:30 am – 5 pm

Thursday features an "Introduction to Beekeeping" track as well as an afternoon program for Youth 7–12 and 13–17 in addition to workshops for our beekeepers. Friday features keynote speakers Dr. Frank Rinkevich from USDA, Dr. Lewis Bartlett from UGA, and Clemson's team from the SC Center for Cooperative Enterprise Development. Enter the Honey Show and view LIVE bee yard demonstrations.

Columbia Metropolitan Convention Center

Contact: Susan Jones / SC Beekeepers Association

864-430-3393 • president@scstatebeekeepers.com

scstatebeekeepers.com

18th Annual Sweetgrass Festival

July 23 • 10 am – 3 pm

Promoting and bringing attention to the contributions of the Gullah Geechee people's history, culture, traditions and their sweetgrass basket art form that originated in Mount Pleasant and continues to exist in our town and surrounding communities today. Offering free admission, entertainment and activities, the Sweetgrass Festival also provides an opportunity for local basket makers to showcase, promote, and market their sweetgrass merchandise.

Mt. Pleasant Memorial Waterfront Park

99 Harry Hallman Jr. Blvd

SALES & AUCTIONS

Claxton's Auction

July 9 & 16 • 11 am – 5 pm

Special Sale July 17 • 1 pm

Every Saturday. Equine, cows, sheep, goats, pigs, camelots, ratites, poultry, and small animals.

18627 Lowcountry Hwy, Ruffin

Contact: William Claxton

843-909-4285 • wlcjr@yahoo.com

Market Bulletin Office

Monday – Friday • 8 AM – 4:30 PM

803-734-2536 • marketbulletin@scda.sc.gov

agriculture.sc.gov/market-bulletin

EDITOR Eva Moore

ADS & CIRCULATION COORDINATOR Janet Goins

GRAPHIC DESIGNER Stephanie Finnegan

COMMUNICATIONS INTERN Samantha Day

South Carolina Department of Agriculture Contacts

Commissioner's Office

803-734-2190

Certified SC Program 803-734-2207	Hemp Farming Program 803-734-8339
Consumer Protection 803-737-9700	Livestock & Grain Market News 803-737-4621
Fruit & Vegetable Inspection 803-737-4588	Market News Recording 803-737-5900
Fruit & Vegetable Market News 803-737-4497	Metrology Laboratory 803-253-4052

The South Carolina Market Bulletin

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POLICIES FOR ADVERTISING

For our full policies, please visit:

agriculture.sc.gov/market-bulletin-policies

Only ads pertaining to the production of agricultural products and related items are published. Ads are accepted for South Carolina items, even if the seller lives out of state, provided the item is in state at the time the ad is published and at the time of sale.

Ads are published free of charge and in good faith. The *Market Bulletin* reserves the right to edit and verify ads but assumes no responsibility for their content.

Ads cannot be accepted from agents, dealers, or commercial businesses, including real estate. Sealed bids, legal notices, or consignment sales are not accepted.

SUBMITTING ADS

No matter the submission method, submissions must include the advertiser's name, complete address with zip code and county, and phone number with area code. While we don't publish the address, we need this information for our records. Do not use all capital letters.

- **Online:** Go to agriculture.sc.gov/market-bulletin. Select "Submit Market Bulletin Ad" and complete the form. If you include your email address, you will receive an automated reminder for a renewal.

- **Mail:** SC Market Bulletin, PO Box 11280, Columbia, SC 29211. You must use 8.5 × 11 inch paper.

- **Email:** Send ads to marketbulletin@scda.sc.gov. Put the words "Market Bulletin ad" in the subject line.

- **Fax:** 803-734-0659

The deadline for submitting ads and notices is noon on Tuesday of the week **before** the publication date.

NEXT AD DEADLINE

JULY 12 • 12:00 PM

SCDA State Farmers Markets

SOUTH CAROLINA STATE FARMERS MARKET

3483 Charleston Highway
West Columbia, SC 29172
803-737-4664

GREENVILLE STATE FARMERS MARKET

1354 Rutherford Road
Greenville, SC 29609
864-244-4023

PEE DEE STATE FARMERS MARKET

2513 W. Lucas Street
Florence, SC 29501
843-665-5154

VISIT AGRICULTURE.SC.GOV

Click on the State Farmers Markets button for more information about each location

SC Market Bulletin Subscription & Renewal Form

Mail completed form with check or money order payable to the SC Department of Agriculture to: SC Market Bulletin, PO Box 11280, Columbia, SC 29211
To subscribe with a credit card online, visit agriculture.sc.gov, click on Market Bulletin, select Subscribe to the Market Bulletin, then follow the prompts.
Do not send cash in the mail. Non-refundable. Allow 6 – 8 weeks for processing. Subscriptions may only be purchased for up to 2 years.

Name _____ Paper: \$15 / 1 year Electronic: \$10 / 1 year
*Active email address required

Address _____ Paper & Electronic: \$20 / 1 year
*Active email address required

City _____ State _____ Zip _____ New Renewal

Phone _____ Check # _____ Renewal ID # _____

Email _____ This is a gift 7/7/22

WANT - FARM EQUIPMENT

FR COMBINE

reasonably priced, older models ok & preferred
Nick Mosher
Marion
912-289-5575

10-12' BWA HARROWS

JD 3020, 4020, 4240, 4055
Ronnie Judy
Dorchester
843-701-6394

3PH PINE STRAW RAKE

5' or 6', in GC
Marion Mackey
Lancaster
803-416-7712

18-22' TANDEM DISC HARROWS

12-14' offset disc harrows, both FR
Drake Kinley
Anderson
864-353-9628

USED SMALL GRAIN BIN

w/dryer btm (1,000-1,500 bu), will disassemble & remove, must have good btm
Mark Jackson
York
803-222-5600

ROP BAR

for 3600 Ford tractor
Mason Motley
Richland
803-754-3224

BISH ADAPTOR

for JD Row Crop hdr & 2366 Case combine
Henry Gunter
Lexington
803-260-5502

WANT - LIVESTOCK

EACH AD MUST LIST SPECIFIC ANIMALS.

PB OLD SPOT PIGS

boar or gilts, to keep from inbreeding, will buy or trade
Benjamin Pridgen
Edgefield
803-279-6395

8 LAYING HENS

will roam free, need egg producers
Gerald Barks
Abbeville
864-554-0686

WHT HUBBLE PIGEONS

R Adams
Darlington
843-393-7280

GAITED SADDLE HORSE

gentle & safe for pleasure riding
Thurman Anderson
Spartanburg
864-542-2245

REASONABLY PRICED POULTRY

goats, & sm animals
Lynn Claxton
Colleton
843-909-4285



MARKET BULLETIN DELIVERY PROBLEMS?

If you're experiencing issues with the delivery of your Market Bulletin,

contact the U.S. Postal Service.

Visit usps.com/help/contact-us.htm or call 1-800-275-8777.

WANT - MISCELLANEOUS

BLK SMITH ANVIL

& old farm bell, any size; hand crank corn sheller
L Gunter
Lexington
803-767-2604

5V CRIMP TIN

no chicken house metal, free no good farm equip w/ in 20 mi
David Wannamaker
Calhoun
803-682-2117

RED BAY TREES

(Bay Nobilis), 3-4', type used for seasoning
Byron Williams
Charleston
843-744-3500

ANY SIZE WASH POTS

syrop kettle, anvils, lrg coffee grinder, old lighting rod w/ balls & weathervane, more
Perry Masters
Greenville
864-561-4792

BLKSMITH ANVILS

any size farm bells, #3 C S
Bell cradle
R Long
Newberry
803-924-9039

TREE JABBER

to kill unwanted trees w/2-4-D
Ralph Grant
Saluda
864-445-2439

FIELDS OF LONG LEAF PINE STRAW

top prices paid, 15 yrs exp
Trey Shull
Lexington
803-318-4263

DAMSON PLUMS

for jelly, you pick or we pick
Randi Rawls
Chester
803-899-9430

BAMBOO

40" T & 3-4", need 10-12 sprouts, will dig up; also need blk bamboo
Ken Higgins
Out of State
828-778-8223

CAROLINA PRECISION FOODS, LLC ESTABLISHING OPERATIONS IN FLORENCE CO. \$10 MILLION INVESTMENT TO CREATE 402 NEW JOBS

Carolina Precision Foods, LLC – a joint venture of Carolina Fresh Foods and owners of Lake Foods – announced plans to establish operations in Florence County. The company's \$10 million investment will create 402 new jobs.

Carolina Precision Foods, LLC is a poultry further processing company that specializes in deboning, portioning, marination, custom further processing and mechanically separating food.

Located at 2901 W. Darlington Street in Florence, Carolina Precision Foods, LLC's new facility will partner with regional poultry processors in custom further processing of poultry products.

Operations are expected to be online in August 2022.

"We are excited to become a member of Florence County and the Pee Dee Region. With over 65 million pounds of poultry processed weekly within two hours of Florence, this was the perfect location for our plant. With Interstates 20 and 95 at our doorstep, fresh chicken from Carolina Precision Foods can be processed for over 19 million consumers in a day. We look forward to a long and fruitful relationship with Florence County!" —Carolina Precision Foods, LLC Chief Financial Officer Jim Robinson

"Agribusiness is one of our leading industries, and with our pro-business environment, it continues to grow at a rapid pace. We congratulate Carolina Precision Foods, LLC on their \$10 million investment and look forward to the impact these 402 new jobs will have on Florence County." —Gov. Henry McMaster

"We are excited to welcome Carolina Precision Foods, LLC to the state of South Carolina. Their operation will offer additional processing opportunities to our state's poultry growers. We look forward to the continued growth of our state's agribusiness industry." —South Carolina Agriculture Commissioner Hugh Weathers

"South Carolina is home to a dynamic roster of agribusiness companies, and we are proud that Carolina Precision Foods, LLC is joining that list. We welcome Carolina Precision Foods, LLC to Florence County and look forward to the positive impact they will make in the local community and beyond." —Secretary of Commerce Harry M. Lightsey III

"We are thrilled to welcome Carolina Precision Foods, LLC to Florence County and are excited about the 402 new jobs they will create for our community. It is clear that food and beverage companies continue to find Florence County as the right place to do business." —Florence County Council Chairman Willard Dorriety Jr.

2022 LEGAL NOTICE

CALL FOR NOMINATIONS FOR CANDIDATES TO FILL VACANCIES ON THE SOUTH CAROLINA PORK BOARD

Pursuant to the provisions of the "Agricultural Commodities Marketing Act" and the Marketing Order for South Carolina Pork issued by the Agriculture Commission of South Carolina, NOTICE IS HEREBY GIVEN that the terms of office of the listed members of the South Carolina Pork Board, expire on August 31, 2022, and, therefore, the listed vacancies shall occur at that time.

DISTRICT 2: Richard Rentz, Branchville, SC
Brett Wiggins, Walterboro, SC
Curt Lee, Alcolu, SC

If you are interested in becoming a SC Pork Board member, you will need to request a petition. This petition can be requested by calling (803) 734-9807, (803) 734-2217 or by emailing elloyd@scda.sc.gov. All petitions must be received by Friday, July 22, 2022. For a petition to be eligible/accepted, it must be signed by no less than five pork producers from the counties of the district seat you are petitioning for.

Terms of office are for 3 years. To qualify, a candidate must be a resident of South Carolina and be actively engaged in the production of pork within the State of South Carolina for a period of no less than one year. Additionally, during that one-year period, candidate will have derived a substantial portion of his income there from and shall continue to do so during their term of office. The Pork Board holds approximately 4 quarterly meetings per year to conduct their business. Reimbursement for mileage is paid for travel to and from meetings. In addition, a \$35 per diem is paid per meeting attended.

Upper State District 1 includes the Counties of Abbeville, Anderson, Cherokee, Chester, Chesterfield, Darlington, Dillon, Fairfield, Florence, Greenville, Greenwood, Horry, Kershaw, Lancaster, Laurens, Lee, Marion, Marlboro, McCormick, Newberry, Oconee, Pickens, Spartanburg, Union, and York

Lower State District 2 includes the Counties of Aiken, Allendale, Bamberg, Barnwell, Beaufort, Berkeley, Calhoun, Charleston, Clarendon, Colleton, Dorchester, Edgefield, Georgetown, Hampton, Jasper, Lexington, Orangeburg, Richland, Saluda, Sumter, and Williamsburg

FRANCES PRICE, Chair
The Agriculture Commission of South Carolina
PO Box 11280
Columbia, South Carolina 29211

Get Your SCATE Card



SOUTH CAROLINA AGRICULTURAL TAX EXEMPTION

As of July 1, 2022, you must have a South Carolina Agricultural Tax Exemption (SCATE) card to claim agriculture sales tax exemptions in South Carolina.

SCATECARD.COM
Learn more and apply



CLEMSON UNIVERSITY / CURIO WELLNESS PARTNER TO ADVANCE RESEARCH ON CANNABIS TISSUE CULTURE

STUDY AIMS TO INCREASE PRODUCTION EFFICIENCY AND PROTECT CANNABIS STRAINS FROM PLANT DISEASES.

BY CLEMSON UNIVERSITY

The Clemson University College of Agriculture, Forestry and Life Sciences is working with Curio Wellness to conduct a two-year research project to advance plant tissue science for the medical cannabis industry.

Headquartered in Timonium, Maryland, Curio Wellness is a licensed medical cannabis company and innovator of health and wellness products derived from cannabis. Matt Taylor is applied science director for Curio Wellness.

“Clemson University is recognized as one of the top agricultural and horticultural schools in the world,” Taylor said. “Through our partnership, we are building the knowledge base for cannabis tissue culture, which in its current state is inadequately understood. The ultimate goal is genetic preservation, which will enable us to continue cultivating high quality, plant-based medicine for patients in Maryland and beyond.”

Tissue culture is an important tool in horticulture and involves growing plants aseptically, or in an environment free of microorganisms and pathogens. It is used for biological research, plant breeding and propagation across important crops such as sweet potatoes, bananas, grapes, roses, berries, hops, and many ornamental plants. The aim is to protect plants from viral pathogens while improving production efficiency.

Jeff Adelberg, an expert in plant tissue culture and a horticulture professor at Clemson, will lead a team involving both the University and Curio Wellness in the study.

“This project is unique in that both organizations will conduct research using our individual plant

collections,” Adelberg said. “Research conducted at Clemson will be shared with Curio for use on their plants in Maryland. They have the medical expertise to create the best products from cannabis. This collaboration creates an opportunity for researchers from both institutions to use their knowledge to benefit people.”

The 2018 U.S. Farm Bill established the United States Department of Agriculture’s Hemp Production Program, legalizing industrial hemp production. The South Carolina Hemp Farming Program is administered by the South Carolina Department of Agriculture.

Clemson’s research involves using industrial hemp, a strain of the same plant as marijuana but without intoxicating effects. Legal production began in South Carolina in 2019. Both hemp and marijuana are strains of the Cannabis sativa plant species. They are distinguished by their chemistry. Hemp has much lower concentrations of tetrahydrocannabinol, or THC, the psychoactive substance for which marijuana is known.



By law, industrial hemp must have less than 0.3% THC, while marijuana may contain between 10 and 100 times that concentration. By contrast, hemp has higher concentrations of cannabidiol, or CBD, which does not have the same psychoactive effects as THC but is approved by the Food and Drug Administration for use controlling epileptic seizures.

Michael Bronfein, Curio Wellness’s chief executive officer, said this latest research collaboration is an example of the company’s continued commitment to innovation that reimagines the way medical cannabis is cultivated and delivered to patients.

“At Curio, everything we do is rooted in scientifically derived methods and processes, which means our investment in research and development is fundamental to our operating strategy and the quality and consistency of our products,” Bronfein said. “This research partnership with Clemson is a prime example of how Curio is investing in the future of medical cannabis for our patients and everyone in need of safe, effective and reliable health solutions.”

The research begins in August 2022.

ABOUT CURIO WELLNESS

Founded in 2014 in Baltimore, Maryland, Curio Wellness is a cGMP certified, vertically integrated medical cannabis company and trusted healthcare partner. Recognized as the leading wellness brand in cannabis by BDS Analytics, Curio is committed to serving patients with targeted, effective, and reliable cannabis-based medicine. For more information visit <https://curiowellness.com>.

ABOUT CLEMSON UNIVERSITY COLLEGE OF AGRICULTURE, FORESTRY AND LIFE SCIENCES

The College of Agriculture, Forestry and Life Sciences (CAFLS) focuses on improving the lives of South Carolinians through education, discovery and outreach in agricultural and life sciences. CAFLS curricula explore plant, animal, human, molecular and packaging sciences and build upon the College’s world-class academic, research and Extension activities to produce scientific discoveries of global significance and graduates prepared to be leaders in their chosen fields. CAFLS remains grounded in the fundamental principle that Clemson University is committed by its land-grant legacy to ensure that higher education remains a public good and that land-grant colleges link their expertise to the needs of the people. For more information visit clemson.edu/cafls.

SIGN UP FOR 2022 SOUTH CAROLINA PRODUCE SAFETY RULE TRAININGS

Calling all fruit and vegetable growers and others interested in learning about produce safety, the Food Safety Modernization Act (FSMA) Produce Safety Rule, Good Agricultural Practices (GAPs), and co-management of natural resources and food safety: The PSA Grower Training Course is one way to satisfy the FSMA Produce Safety Rule requirement outlined in § 112.22(c) that requires ‘At least one supervisor or responsible party for your farm must have successfully completed food safety training at least equivalent to that received under standardized curriculum recognized as adequate by the Food and Drug Administration.’

WHAT TO EXPECT AT THE PSA GROWER TRAINING COURSE

The trainers will spend approximately seven hours of instruction time covering content contained in these seven modules:

- Introduction to Produce Safety
- Worker Health, Hygiene, and Training
- Soil Amendments
- Wildlife, Domesticated Animals, and Land Use
- Agricultural Water (Part I: Production Water; Part II: Postharvest Water)
- Postharvest Handling and Sanitation
- How to Develop a Farm Food Safety Plan

In addition to learning about produce safety best practices, key parts of the FSMA Produce Safety Rule requirements are outlined within each module. There will be time for questions and discussion, so participants should come prepared to share their experiences and produce safety questions.

BENEFITS OF ATTENDING THE COURSE

The course will provide a foundation of Good Agricultural Practices (GAPs) and co-management information, FSMA Produce Safety Rule requirements, and details on how to develop a farm food safety plan. Individuals who participate in this course are expected to gain a basic understanding of:

- Microorganisms relevant to produce safety and where they may be found on the farm
- How to identify microbial risks, practices that reduce risks, and how to begin implementing produce safety practices on the farm
- Parts of a farm food safety plan and how to begin writing one
- Requirements in the FSMA Produce Safety Rule and how to meet them.

After attending the entire course, participants will be eligible to receive a certificate from the Association of Food and Drug Officials (AFDO) that

verifies they have completed the training course. To receive an AFDO certificate, a participant must be present for the entire training and submit the appropriate paperwork to their trainer at the end of the course.

Three training sessions remain in 2022:

Charleston Produce Safety Rule Training

August 30 | 8:30 am – 5:00 pm
(Hold August 31 for remote, if needed)

Remote Produce Safety Rule Training

September 21 – 22 | 1:00 – 5:30 pm

Columbia Produce Safety Rule Training

December 7 | 8:30 am – 5:00 pm
(Hold December 8 for remote, if needed)

For more information about scheduled PSA Grower Training Courses, please visit the PSA website at producesafetyalliance.cornell.edu.

For questions, please contact Brooke Horton, SCDA Produce Safety Outreach Coordinator at 803-351-1244 or bhorton@scda.sc.gov or Chad Carter, Clemson Extension Produce Safety Grower Training Coordinator at 843-730-5211 or ctcarte@clemson.edu.

ROOTS OF NATIVE GRASSES MAY HOLD KEY TO GROWING CROPS IN DRIER CLIMATES

BY DENISE ATTAWAY, CLEMSON UNIVERSITY

Drought can cause issues for grain crops and three Clemson University scientists are working to get to the root of the problem.

The scientists believe crops have a lesson or two to learn from their weedy relatives when it comes to growing in drier soils. The trick is to harbor beneficial microorganisms on and around the roots to enhance the ability of plants to withstand harsher environments.

An interdisciplinary team led by Vidya Suseela, assistant professor in the Department of Plant and Environmental Sciences, received a \$649,898 grant from the United States Department of Agriculture National Institute of Food and Agriculture (USDA-NIFA) for their study, Systems approach to impart stress resilience: Enhancing crop drought-resilience of crops through cross-inoculation of beneficial rhizobiome and cover cropping.

Suseela is a soil ecologist and studies the interactions of plant roots with surrounding soils and associated microorganisms. Other researchers involved in the project are Nishanth Tharayil, Department of Plant and Environmental Sciences, and Barbara Campbell, Department of Biological Sciences.

Many ruderal plants are considered weeds and grow on waste lands where they are exposed to harsh environments. An attribute common to most ruderal species is their ability to foster beneficial microorganisms around roots, which in turn helps them perform better under environmental stress. The researchers will start by identifying microorganisms found near root systems that help provide drought tolerance to ruderal grasses. Corn is the crop used in this study.

“In an effort to make corn more drought-tolerant, we will devise strategies to identify and transfer beneficial microorganisms from the ruderal grasses

to corn,” Suseela said. “Plant root-associated microbial communities (microbiomes) can stimulate plant growth and enhance plant tolerance to environmental stress such as drought. Utilizing root-microbiome interactions thus offers a promising path to impart drought tolerance in crops, particularly in the face of changing climate.”

In a related study, the Clemson team captured some of the key mechanisms through which beneficial microorganisms from related ruderal plants reduce the water requirements of corn by one-half.

“This maintenance of productivity under drought is a significant finding, given that global climate change is predicted to result in drier growing seasons related to less frequent rain events,” Suseela said. “Microorganisms are the better half of plants when it comes

to overcoming environmental adversities and is a potential that remains untapped.”

Once identified, these microorganisms will be transferred from the ruderal grasses to corn.

Transferring microorganisms from ruderal grasses to crops creates a unique challenge for the researchers.

“Using microorganisms from ruderal species to provide drought tolerance for cash crops is a relatively new idea” Tharayil said. “But the real challenge is how to maintain these beneficial microorganisms under field settings. Because of their complexity and resilience, bringing about changes in the soil microbial community composition is easier said than done, and native microbes will outwit the introduced microbiome in no time.”

To overcome this hurdle, the researchers plan to use cover crops closely related to ruderal species to serve as vectors to transport, multiply and maintain beneficial microorganisms in fields. Soil microbes thrive on chemical compounds released by plant roots. To stimulate growth of colonies

of beneficial microorganisms in the soil, grass cover crops with root systems and chemical inputs similar to the ruderal species, will be planted in the field before the crop. Tharayil’s expertise is in plant ecophysiology. His group studies plants’ responses to harsher environments and uses various tools to characterize plant chemistry.

“Ruderal species, though natives, cannot be directly introduced into crop fields due to their potential weedy nature,” Tharayil said. “We believe that if we plant cover crops that release chemical compounds similar to those of ruderal grass, we can sustain the beneficial microorganism of the ruderal plants in agricultural fields. The trick is finding the correct match.”

Suseela adds, “Though there are several avenues to increase drought tolerance of crops, our approach, by fostering soil microbial communities and soil health, provides a sustainable method for microbiome-mediated stress resilience in crops, while taking a systems approach in maintaining the health of agroecosystems.”

Campbell is a microbial ecologist who uses molecular tools to understand microbiome diversity, function and interactions with other microbes or higher organisms as well as the environment. She will advise and work with graduate students to characterize root microorganisms in relation to changes in the plant environment.

“We will examine beneficial microorganisms and compare them to original microorganisms, as well as document changes that occur in the microorganisms in corn grown following different cover crops,” Campbell said.

The project is expected to continue through April 2026 and will involve a series of lab, greenhouse and field experiments.

Developing crops that can adapt to changes in the climate is important in helping farmers grow crops to feed the world. Information from the National Oceanic and Atmospheric Administration (NOAA) shows as the climate continues to change, some areas likely will experience increased precipitation and flooding, while other locations likely will experience less precipitation and increased risk of drought.



Clemson University scientists are conducting research to determine if beneficial microorganisms from ruderal plants - weeds - can help corn become more drought-tolerant.

NEW LEGISLATION OPENS RED SNAPPER HARVEST IN STATE WATERS

BY SCDNR

Red snapper are not often caught within South Carolina state waters, but a new law will allow anglers along the coast to take advantage of some they do encounter.

The South Carolina General Assembly recently passed legislation that allows for year-round harvest of up to two red snapper per person per day with a minimum size of 20 inches total length in state waters. The creel and size limits mirror those found in neighboring Georgia and Florida (Atlantic) state waters. The new regulations (introduced as S.980 by Senators Campsen and Goldfinch) took effect recently upon signature by Governor McMaster.

Red snapper are among the most prized fish in southeastern waters, with their mild, sweet meat a quintessential offering at seafood restaurants. They’re exceptionally long-lived, topping out at around 50 years of age and 50 pounds. Snapper occupy multiple

levels of the ocean food chain, serving both as prey for large, carnivorous fish and sea turtles as well as predator to smaller fish and crustaceans.

They’re uncommon within state waters (fewer than three miles offshore), which tend to be shallower than their preferred habitat. Off the coast of South Carolina, red snapper are far more abundant in federal waters (greater than three miles offshore) and are most commonly found around hard bottom areas such as natural and artificial reefs.

Access to red snapper in federal and state waters has been limited in recent years. The species declined in southeastern waters over the last half century, and in 2010, federal officials closed the fishery to allow the overfished population to rebuild.

SCDNR surveys show that while the population of

red snapper off South Carolina is increasing, most fish skew young; a sign that the population is still in the process of rebuilding.

Red snapper are especially susceptible to barotrauma, a condition that occurs when fish are brought to the surface from deep water and their internal gases expand. To counteract barotrauma and ensure more released fish survive, anglers fishing for or possessing red snapper and other “snapper/grouper” species are required to have a descending device on board. Find more information on descending devices at safmc.net/best-fishing-practices.

Possession of red snapper in federal waters is still prohibited outside of the occasional mini-season. NOAA Fisheries recently announced that recreational red snapper season in federal waters will next open on July 8–9, 2022.