# Accelerating Solutions for Florida

## UF/IFAS Annual Report

FY2023

UF IFAS
UNIVERSITY of FLORIDA

# A Message from J. Scott Angle

## Thinking Forward

In 2023, UF welcomed Dr. Ben Sasse as our new university president. He is challenging the entire UF community to think big. As you can see in the pages that follow, we're already doing that!

**At UF/IFAS, we aim to think even bigger.** We're finalizing support for a center that will transform Florida's economy via what is envisioned as the Silicon Valley of agriculture. We'll solve the riddle of how to value the things our farms produce but don't get paid for–carbon sequestration, water filtration, wildlife habitat, and more.

**What do we want to be known for? How do we attract top talent? How can we transform the student experience? And how do we increase global impact?** We want to be known as the nation's top university-based agricultural science organization, providing research, teaching and Extension that benefits Florida and impacts the world. To that end, we are doubling down on research in areas such as plant breeding and invasive species.

We are building and renovating facilities to give existing and prospective scientists the tools to do their most impactful work. We are continually adding new experiential learning opportunities to prepare students for careers and service to society. We've reorganized our international arm to reach more parts of the globe and to go deeper into the places we've already reached. And we're enhancing Extension work to help every Floridian live their best life.

Our annual report highlights just a few of our recent advances. We do so many things that it's impossible to capture more than a fragment here. But the overall message is one of progress while reminding people that food is our middle name.

Sincerely,

J. Scott Angle

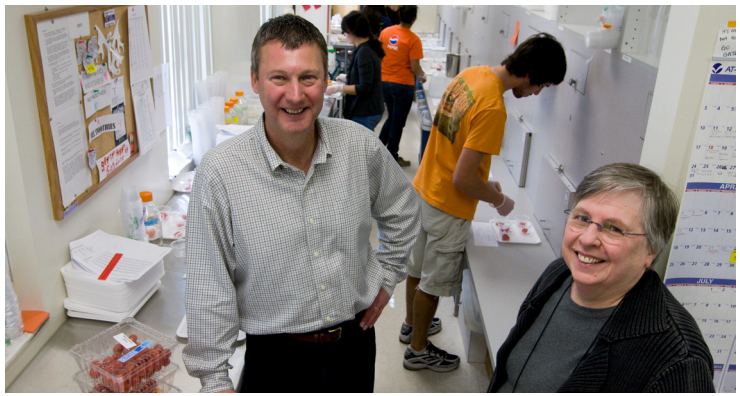
*J. Scott Angle*
*Senior Vice President for*
*Agriculture and Natural Resources*

# Reimagining Solutions

In 2022-2023, **UF/IFAS invested more than $300 million in research**, shattering our spending record for the second year in a row, and leading the way as UF once again reached a record level of $1.25 billion for research expenditures. In addition, UF/IFAS researchers received record levels of grants and awards, setting our teams up to produce strong outcomes in the years to come.

UF/IFAS is charging forward with artificial intelligence projects to solve problems for Florida and beyond using the most innovative tools and approaches available. Eleven faculty teams were awarded a total of $261,723 in seed funding through a new program called Launching Innovative Faculty Teams in AI (LIFT AI). One LIFT AI team is using technology to determine which volatiles make blueberries and tomatoes taste good. UF/IFAS researchers developed a computer model to measure fruit tastes, using AI and years of tomato and blueberry program data. They gave tomato and blueberry varieties to consumer panels at the **UF Sensory Lab in Gainesville** and collected ratings on flavor attributes such as "liking," sweetness, sourness, flavor intensity and umami. This project will encourage the selection and release of more flavorful and consumer-liked fruit varieties.


*Dr. Marcio Resende, a UF/IFAS assistant professor of horticultural sciences, in his greenhouse on the main UF campus in Gainesville. In a new study, Resende and other UF/IFAS scientists used artificial intelligence to gather smell and taste data on tomatoes and blueberries.*



*Food Science and Human Nutrition faculty Charlie Sims, left, and Linda Bartoshuk attend a tomato tasting in the Sensory Lab, which plays a key role in much of the program's work.*

The **UF/IFAS Florida Medical Entomology Laboratory** continued its groundbreaking work in identifying the now more than 90 mosquito species living in Florida. Given that mosquitoes are major vectors for viruses like West Nile, eastern equine encephalitis, dengue and chikungunya, this work will save lives worldwide.

ISRI | INVASION SCIENCE RESEARCH INSTITUTE

Florida is the 'tip of the spear' for invasive species, and UF/IFAS announced the new **Invasion Science Research Institute**, which will bring together more than 120 UF scientists from more than 20 departments currently dedicated to the detection, diversion, tracking and control of nonnative and invasive wildlife and plant species.

Our researchers continue to earn global recognition for excellence: In 2023, a record **11 faculty members** were inducted as American Association for the Advancement of Science (AAAS) Fellows, bringing the UF/IFAS number to 40.

# Developing the next generation of Dreamers and Doers

The UF/IFAS **College of Agricultural and Life Sciences (CALS)** is a leader both nationally and at UF for excellence in teaching and is committed to expanding opportunities for students. U.S. News and World Report ranks agricultural sciences at UF as **No. 4 in the U.S.** Our faculty are changing our world by preparing graduates for whatever comes next.

Eighteen CALS faculty and graduate students were recognized for outstanding teaching skills by the North American Colleges and Teachers of Agriculture (NACTA). Their innovation and creativity prepare students to address the world's critical challenges in agriculture, food systems, human wellbeing, natural resources, and sustainable communities. In 2018, NACTA created a new award–Excellence in Teaching and Learning with Technology–which is given to one teacher in the organization each year. Of the six awardees, five come from CALS, proving our teachers remain at the forefront of classroom innovation and technology.

**Three CALS faculty members were recognized by the University of Florida as outstanding educators and mentors in 2023, helping our students do their very best:**

**Xin Zhao**, *UF Undergraduate Teacher of the Year*

**Antonio Faciola**, *UF Doctoral Dissertation Advisor/Mentor of the Year*

**Amie Imler**, *UF Faculty Advisor/ Mentor of the Year*

UF 100 years ABE 1923 – 2023

The **Department of Agricultural and Biological Engineering** celebrated its centennial in 2023. Starting with six faculty in 1923, the department has grown steadily and now boasts 42 faculty located on UF's main campus and four Research and Education Centers around the state. Alumni live and work around the globe, solving problems and moving our world forward.

## Did you know 230 CALS graduate students live, work and study at UF/IFAS locations around the state?

They pursue their studies at UF/IFAS Research and Education Centers (RECs) where they get hands-on experience in their fields. To support their unique campus experience, each REC had recreational equipment installed to promote healthy living while students complete their degrees.

# UF/IFAS Extension: Neighbors with Knowledge

You may know **Extension** as the folks who help you pick the right plants for your garden, or the team that brings outstanding 4-H youth development to your community, or the experts who help identify bugs in your yard. All these are true, of course, but UF/IFAS Extension is so much more.

## Information First Responders

In 2022, when **Hurricane Ian** was approaching, UF/IFAS Extension teams were already at work in county Emergency Operation Centers and helping citizens and growers prepare for the storm. Ian had barely passed over before they were back out there helping to assess damages across the state, helping people and businesses recover.

## By the numbers

**135,000**
Youth in 4-H

**369**
new and revised Ask IFAS publications

**3,230**
Master Gardener Volunteers

**1 million+**
participants in Extension workshops and courses

**50,566**
consultation visits to farms and offices

## 30 Years of Florida-Friendly Landscapes

Since 1993, Florida-Friendly Landscaping™ (FFL) has served as Florida's premier Extension program to promote beautiful, sustainable landscaping alternatives. FFL provides research-based guidance for beautiful, low-impact landscapes that use less water and reduce pollutants in the environment.
In 2022, homeowners and landscapers using FFL practices prevented more than 120,000 lbs. of nitrogen from entering Florida's waters. Take the FFL pledge for beautiful landscapes and a cleaner environment.

## Preparing Youth for the Future

The Florida 4-H Work Ready Florida program is a grant-funded youth development initiative designed to equip young Floridians with the skills, knowledge and experiences they need to thrive within the agriculture field. Agriculture is changing rapidly, with increased focus on artificial intelligence and precision technology to maximize production while reducing use of natural resources. Work Ready Florida prepares youth for certification in Agriculture Education Services and Technology, which can open opportunities in today's competitive job market and shape a brighter future for Florida's youth.

## Building Florida's economy

UF/IFAS Extension courses helped dozens of Floridians launch small cottage food businesses, and bring them one step closer to their dreams. These courses help budding business owners, like Sharlay Smith, develop business and marketing plans, understand regulations and set them up for success.


*Sharlay Smith (right), The Lentil House creator and Natasha Parks (left), UF/IFAS Extension agent who taught the course that inspired The Lentil House.*

*Florida 4-H Youth Development helps to mould the visionaries and innovators of tomorrow. UF/IFAS Photo by Tyler Jones.*

# Fund it Forward

## support for a science-filled future

### Momentum at Work

The generosity of UF/IFAS supporters is transformative, allowing us to enhance our efforts to provide the best in education and research for Florida. In 2022-23, total giving reached $23.5 million.

The importance of private support in furthering the UF/IFAS mission cannot be overstated, and these gifts supported projects like a new plant breeding professorship, graduate student support and much-needed student housing at the **UF/IFAS Tropical Research and Education Center** (TREC).

*Pauline O. Lawrence*

In November 2022, a new graduate student residence broke ground at TREC in Homestead, Florida, and is named in honor of UF professor emerita and alumna Pauline O. Lawrence. A graduate student at UF in the 1960s and 1970s, Lawrence was the first Black female student in entomology and the first female student to live and study on the UF/IFAS TREC campus. Her career was marked by leadership and philanthropy, establishing a scholarship fund and now as the lead donor for the new TREC residence. The Pauline O. Lawrence Student Residence is the first UF building named after a Black person.

### Gators to the Rescue

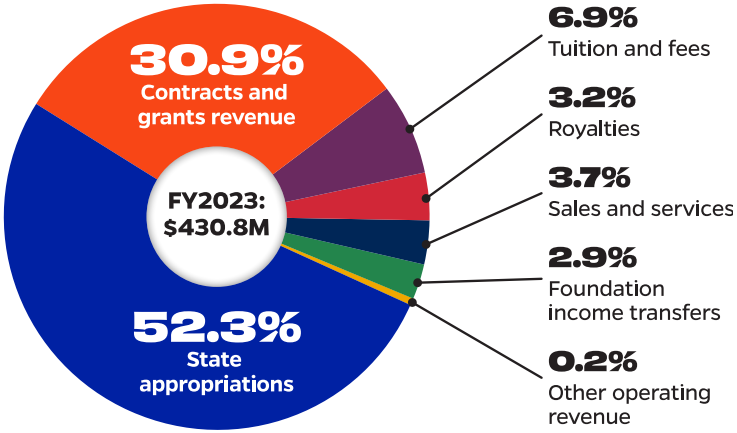
After Hurricane Ian swept through Florida in September 2022, communities struggled with large populations of mosquitoes emerging from the floodwaters left behind by the storm's rain and surges. Gainesville-based Inzecto Mosquito Trap, co-created by Phil Koehler, a UF distinguished professor emeritus in the department of entomology and nematology, donated 100,000 of the easy-to-use, environmentally friendly, and effective mosquito-killing traps to the affected areas.

Great things happen when people care enough to get involved. Follow our blog for the **How it Happened series** to learn how philanthropy has made a difference for the UF/IFAS community.

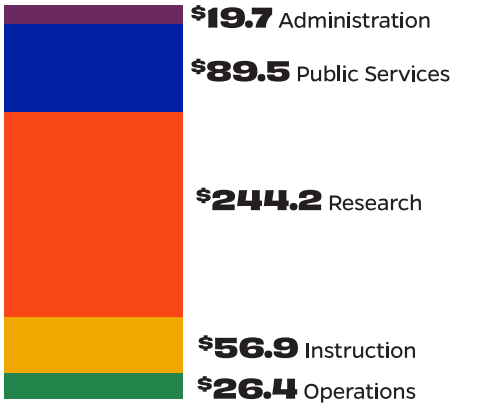
### Make your mark!

Find your way to turn your passion into action. Contact UF/IFAS advancement or visit **give.ifas.ufl.edu**.

## Operating Revenues ($ in Millions)




## Operating Expenses ($ in Millions)




*Revenue and operating expenses represent a consolidated net position and exclude transfers between internal units. For more information, please contact IFAS-IFA@ifas.ufl.edu.*

# Leading the Way FACTS

## Fast Facts

- **Agriculture, natural resources and food industries** are a driving force supporting more than **2,000,000 jobs in Florida.** The industry not only feeds our growing population, but also adds value to our other major industries, including tourism.

### UF/IFAS leads the university in innovation:

- **A total of 41 new plant cultivars/varieties** were approved for release by UF/IFAS in fiscal year 2023, the highest number of releases in the past 9 years.
- **163 license agreements were executed** by Florida Foundation Seed Producers in FY23 for UF/IFAS plant cultivars/varieties, the highest number in the past 7 years.
- **Florida leads the world in caladium bulb production,** bringing $15 million a year in direct revenue to caladium producers. The UF/IFAS Gulf Coast Research and Education Center serves as the only major organized public caladium breeding program in the world.
- **UF/IFAS is a world leader** known for excellence in the agricultural and natural resources sciences.
- U.S. News and World Report ranks agricultural sciences at UF as **No. 4 in the U.S.** and **No. 15 in the world**.
- **UF/IFAS is ranked No. 1 in the U.S.** for **total and federally financed research and development expenditures in the agricultural sciences and natural resources and conservation**, according to NSF's most recent **Higher Education Research and Development Survey**[1,2]
- **U.S. News and World Report ranks** the **UF/IFAS Department of Agricultural and Biological Engineering** undergraduate and graduate programs **No. 6 in the U.S.**
- **CALS has more USDA teaching award-winning faculty** than any other university in the nation.

[1, 2] **https://ncses.nsf.gov/pubs/nsf22311/**

*UF/IFAS Photo by Tyler Jones*

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# Institute of Food and Agricultural Sciences

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