

DESTINATION

UF | IFAS
UNIVERSITY of FLORIDA

A composite image featuring the Earth's blue and green surface at the bottom and the reddish-orange surface of Mars at the top. A bright sunburst effect emanates from the center, with rays extending across both planets. The background is a dark blue space filled with stars and faint white orbital lines.

THE SCIENCE OF

BETTER

LIVING



OPPORTUNITY.

It is what the University of Florida offers the state of Florida and the nation.

For more than 150 years, the land-grant vision has been built on the promise and potential held in the dreams of every resident who envisioned a better future for themselves, their families, their communities and their nation.

UF/IFAS lives the promise of the land-grant mission every day. As a national leader in undergraduate and graduate education, innovative research and responsive outreach through the statewide Extension network, UF/IFAS is the exemplary standard of a 21st-century land-grant university agriculture and natural resources program.

WHO WE ARE

UF/IFAS science builds a better world.

It starts with the economy. UF/IFAS science developed varieties of blueberries that made Florida a major producer — and employer — in a crop previously dominated by northern states.

UF/IFAS has achieved similar results with strawberries. Now it has experts focused on finding the building blocks for new industries in peaches, pomegranates, olives and even hops.

At the same time, we don't want to leave behind the things that already make Florida special. UF/IFAS science is the leading hope for the salvation of the Florida orange.

A village of unemployed gill-net fishermen facing economic ruin turned to UF/IFAS science in 1994 and became one of the eastern U.S.'s leading clam-farming communities. Florida manatees continue their slow climb back from the brink of extinction with help from scientists who study everything from their biology to the way humans interact with them.

Farmers, who grow 300 different crops in the state, tell us: "If it weren't for IFAS, I wouldn't be in business."

We play a central role in the development of one of the most important crops — future leaders. Our 4-H programs serve close to 200,000 children. We open the gates of the university as wide as we can through scholarships, online courses, satellite locations and graduate-level field and lab work at our research and education centers throughout the state.

UF/IFAS is positioning Florida as a leader in efforts to feed the world, as we set up livestock innovation labs in eight nations in collaboration with international teams to pursue more sustainable operations. We're even working on growing plants in space.

UF/IFAS can accomplish all of these things and more, because we operate in a partnership between government, academia, industry and especially with our colleagues across the University of Florida. UF/IFAS enjoys the in-house expertise that comes from UF being one of only

six public land-grant universities in the nation with colleges of agriculture, engineering, law, medicine and veterinary medicine all on one central campus.

The School of Natural Resources and Environment currently involves 334 faculty members representing 56 departments in 12 colleges. To help address Florida's water-related issues from a broad perspective, UF/IFAS created the campus-wide interdisciplinary UF Water Institute, which seeks to address water sustainability. Founded in 2006, the Institute has 338 affiliate faculty representing 65 UF academic departments and centers.

Individual UF/IFAS faculty members often find that their research interests overlap with those of faculty members across campus. Faculty from the UF/IFAS family, youth and community sciences department collaborate with UF College of Health and Human Performance faculty on projects involving human health behavioral change, an innovative approach to helping people establish healthier lifestyle habits.

The statewide Florida Sea Grant Program, based at UF/IFAS, is a partnership between the National Oceanic and Atmospheric Administration and more than 800 scientists at 16 Florida-based universities and laboratories. At UF, Florida Sea Grant affiliates are found not only within UF/IFAS but also at the Levin College of Law and UF College of Public Health and Health Professions.

These partnerships help UF/IFAS address complex challenges effectively and find science-based solutions. We do that by attracting outstanding faculty members whom we provide with the resources needed to do their best work and with incentives to collaborate on teams that bring multiple perspectives to the search for solutions.



Learn more about UF/IFAS here:
<https://tinyurl.com/IFAS-Anthem>



\$16,354,408

Total Gifts and Pledges (FY 2018-19)

412

Endowments



Every year since FY 2000-01, UF/IFAS has ranked

1st or 2nd

among U.S. universities in agricultural research and development expenditures.



Ranked

No. 7

among U.S. public universities in U.S. News & World Report.



For the third consecutive year, U.S. News & World Report has named Florida the

No. 1

state in the nation for higher education.



The UF College of Veterinary Medicine ranked

No. 9

among veterinary colleges in U.S. News & World Report.



As of the fall semester 2019, UF/IFAS CALS has

6,283

students.



UF/IFAS has

3,693

academic faculty & staff.

U F/IFAS CALS is one of the

Top 5 largest colleges

of agriculture and related sciences in the U.S.



In terms of enrollment, UF/IFAS CALS is the

4th

largest college at the University of Florida

and has the **largest**

graduate program among U.S. ag colleges.



UF/IFAS Research garnered

\$161.3 million

in sponsored projects in FY 2018-19.



More than

90

locations around the state.





A DYNAMIC CAMPUS

One campus, 16 colleges and more than 150 centers and institutes make the University of Florida one of the most comprehensive universities in the nation and the perfect engine for interdisciplinary collaboration and technology transfer. UF is a campus with a diverse curriculum and a community with a dynamic culture.

UF's depth and breadth across its academic and research missions has earned it the designation as the No. 7 public university in the country. UF is where Gator faculty, staff and students sink their teeth into ideas that change lives and shape generations.

No. 7
ranked public
university
in America

U.S. News & World Report 2020

\$776.2 million UF's research funding in 2018-19

45 Number of faculty elected to the National Academies of Sciences, Engineering and Medicine, and the American Academy of the Arts and Sciences

6 Number of universities nationwide, including UF, that have colleges of Agriculture, Medicine, Veterinary Medicine, Engineering, Business and Law on one campus

1 The only university in the nation to share a central campus with colleges of Medicine, Dentistry, Nursing, Pharmacy, Public Health and Health Professions, and Veterinary Medicine, all adjacent to a Veterans Affairs Medical Center

180 Sites statewide with UF programs, including UF/IFAS Extension offices in all 67 counties in Florida

16 Total colleges

6,100+ Total faculty

56,000+ Total students

A Legacy of Partnerships; a Future Full of Potential





FLORIDA'S AGRICULTURE AND NATURAL RESOURCES SECTOR

**Agriculture and natural resources are big in Florida.
Always have been, always will be.**

Today, agricultural and natural resources-based industries are essential to Florida's economic and environmental health. Not only do these industries feed, clothe and employ residents, they also provide innovations that reduce human impacts on Florida's environment, improve residents' health and lower their household expenses.

Collectively, Florida's agriculture, natural resources and food industries represent the state's second-largest economic engine, after tourism. In calendar year 2016, they supported 14.6% of all jobs in Florida and generated sales revenues totaling \$165.5 billion. These figures represent not only the core activities UF/IFAS supports — crop, livestock, forestry and fisheries production — but also allied industries such as food manufacturing and distribution, agricultural inputs and services, mining, forest products manufacturing and nature-based recreation.

Agriculture was one reason Spanish forces colonized Florida, beginning with Ponce de Leon's landing near St. Augustine in 1513. Eager to ship valuable goods home and win favor with their leaders, early settlers produced citrus, lumber, cotton and indigo. In 1521, Ponce de Leon attempted to found a settlement near Charlotte Harbor, bringing the state its first beef cattle in the process. Florida's first known citrus grove was planted in 1579 in St. Augustine.

Snapshot of Florida Ag and Natural Resources 2019

Fast-forward to the 21st century. Florida is the nation's third most populous state, much of its coastline is heavily developed, and central Florida theme parks keep tourism on top as the state's No. 1 revenue-producing industry. Nonetheless, agriculture and natural resources-based industries remain critically important. For example, when the Great Recession struck the United States in 2008, agricultural and natural resources-based industries helped stabilize Florida's economy, even as tourism temporarily declined.

Across the open countryside — even in some of south Florida's most populous counties — crop farming and livestock production still dominate local economies. Rich "muck soils" south of Lake Okeechobee support about a half-million acres of sugarcane and winter vegetables — much of it in Palm Beach County. The state's Panhandle is home to enormous stocks of standing timber, mainly planted pine. Mid-Florida produces greenhouse and nursery crops worth billions. Along our 8,400 miles of coastline, in

Revenue of Florida's valuable agricultural and natural resources-based industries:



Wood and paper product manufacturing

\$8.99 billion*



Nursery, greenhouse,
floriculture and sod crops

\$2.28 billion

No. 2 nationally



Fruits, tree nuts and berries

\$1.30 billion

No. 3 nationally



Vegetables, melons, potatoes,
sweet potatoes

\$1.28 billion

No. 2 nationally



Forestry production

\$719 million*



Sugarcane

\$654 million

No. 1 nationally**



Cattle and calves

\$529 million

No. 28 nationally



Milk from cows

\$478 million

No. 20 nationally

Sources: 2017 Census of Agriculture State Profile.

*"Economic Contributions of the Forest Industry and Forest-based Recreation in Florida in 2016," from UF/IFAS Economic Impact Analysis Program.

**"USDA-NASS 2017 State Agriculture Overview for Florida."

metropolitan and rural areas alike, commercial fishing enterprises harvest shrimp, stone crab, spiny lobster, oysters and finfish. Other waterfront businesses cater to recreational anglers, divers and sightseers.

How big are Florida agriculture and natural resources? Big enough that our agricultural and natural resources-based industries manage two-thirds of the state's 34.6 million acres of land. That's an area about the size of South Carolina.

Notable Florida Crops

Because Florida is geographically varied and includes both sub-tropical and tropical climates, our agricultural and natural resources portfolio is deep and diverse. We're known as a specialty crop state, offering about 300 commercial items harvested from fields, forests, greenhouses, groves and aquatic sources.

Citrus remains Florida's signature crop, despite the impact of citrus greening disease, which has reduced yields by 75% since it was first reported in Florida in 2005. Overall, the state primarily grows juicing oranges, but the Indian River area is celebrated for its fresh-market grapefruit.

In fact, many of the agricultural enterprises that were prominent in Florida a century ago — citrus, forestry, cattle ranching, winter vegetable production, sugarcane farming — remain prominent and vital today. Of course, UF/IFAS personnel have helped keep those industries strong for 100 years by developing improved crop varieties and management practices.

Other noteworthy Florida ag and natural resources-based industries that fall within the UF/IFAS core mission include production of peanuts, potatoes, hay, sod, livestock forages, seafood and ornamental fish; pumping of potable water for bottling; and honeybee contract-pollination services. UF/IFAS is also involved in Florida's \$160 million equine industry, in collaboration with the UF College of Veterinary Medicine.

Challenges to the well-being of Florida's agricultural and natural resources-based industries today include crop pests and diseases (some native and many more introduced); a changing regulatory landscape; labor costs and immigration reform; and threats to water quality and availability.

Innovation Today for a Better Tomorrow

To keep Florida producers competitive, UF/IFAS scientists and breeders give a never-ending effort to devise better management techniques, new technologies and improved crop varieties. Then we disseminate the results to growers, other scientists, industry and the public through UF/IFAS Extension outreach, scientific publications and crop-variety licensing.

Moreover, to ensure that tomorrow's Florida farmers and ranchers have the best possible chances for success, the UF/IFAS College of Agricultural and Life Sciences offers one of the best undergraduate agricultural education programs in the world. UF/IFAS CALS hosts numerous undergrad programs to educate the next generation of farmers and ranchers, as well as those who'll support their efforts, including economists, crop scientists, geneticists, microbiologists, plant breeders, Extension agents, private-sector researchers and industry leaders. After earning their undergraduate diplomas, many UF/IFAS CALS students attend graduate school to become credentialed scientists or enter professional programs where they pursue careers as veterinarians, medical doctors, lawyers, engineers and accountants.

Across the state, UF/IFAS Extension seeks to improve all residents' health with nutrition education and outreach programs that explain how to shop on a budget and prepare delicious, balanced meals. In the realm of food science and human nutrition, our faculty members conducted groundbreaking studies on the importance of folate, or vitamin B9, to human fetal development. These studies spurred the U.S. Food and Drug Administration in January 1998 to require manufacturers to begin fortifying breakfast cereals and other items with folate to promote healthy fetal development. There are even UF/IFAS project teams working to make vegetables tastier to inspire Americans to eat more of them.

Sustainability Takes Center Stage

With so much of Florida's land acreage managed by agricultural and natural resources-based industries, it only makes sense for today's producers to use the most sustainable methods

available, to protect soil and water resources for future generations. Thus, sustainability issues have taken center stage for UF/IFAS. More fundamentally, sustainability is a key element of U.S. domestic food security. Recognizing the importance of acting now to protect Florida agriculture's viability tomorrow, our scientists have developed numerous methods of improving production efficiency.

A few recent examples include the use of microsprinklers for citrus irrigation to conserve water; the online Strawberry Advisory System service for strawberry farmers that notifies them when fungicide applications are appropriate; and a massive project to impound stormwater in low-lying pastures on commercial cattle ranches in order to control flooding and reduce nutrient loads. One of the most recent UF/IFAS sustainability innovations is a new approach to raised-bed plasticulture, using taller, narrower beds that keep irrigation water in the crop root zone more effectively. Growers in southwest Florida have reported significant cost savings and yield increases with this method, and farms in other East Coast states have begun adopting the practice as well.

Innovation is always at the forefront of UF/IFAS efforts, because if there's any overriding feature of the UF agriculture and natural resources program during its 135 years of existence, it's adaptability.

When growers expressed interest in new crops, we conducted field trials to evaluate their suitability to Florida. When disease outbreaks erupted, we sought solutions. When improved crop varieties were needed to help Florida growers compete, our breeders developed them. Now, as sustainability concerns grow, UF/IFAS has nearly a half-century of experience with Best Management Practices, legislative interface and producer outreach, enabling us to forge alliances and build consensus in the interests of the common good. With the cooperation of producers, elected officials, industry leaders, the academic community and residents, we can build toward a better future.

Yesterday, today and tomorrow, UF/IFAS is working for Florida.

About UF/IFAS





The mission of the University of Florida Institute of Food and Agricultural Sciences (UF/IFAS) is to develop knowledge relevant to agricultural, human and natural resources; and to make that knowledge accessible to sustain and enhance the quality of human life.

UF/IFAS is the largest and most comprehensive agricultural and natural resources enterprise found among Florida's public universities, and one of the largest in the nation. This emphasis comes about because UF is one of the state's two land-grant institutions, along with Florida A&M University. As a land-grant institution, UF receives federal support and operates with a federal mandate to improve the state's agricultural and natural resources-based industries.

The full history of UF/IFAS dates to the 1880s, but the name "Institute of Food and Agricultural Sciences" only dates to 1964 — it was created to inaugurate a new administrative structure established that year, and the name is still in place today.

The UF/IFAS enterprise is based in Gainesville on the UF main campus and encompasses 14 academic departments and two schools. The entire enterprise is led by the UF senior vice president for agriculture and natural resources.

As the agricultural and natural resources enterprise in a land-grant institution, UF/IFAS has three main units, focused on teaching, research and Extension. These are, respectively, the UF/IFAS College of Agricultural and Life Sciences (UF/IFAS CALS), UF/IFAS Research, conducted under the auspices of the Florida Agricultural Experiment Station, and UF/IFAS Extension, with offices in all 67 Florida counties.

UF/IFAS CALS offers undergraduate and graduate degree programs in more than 20 disciplines. Nationwide, UF/IFAS CALS is one of the largest and most comprehensive colleges of its type.

UF/IFAS Research facilitates all research activities conducted by UF/IFAS faculty and students, on the UF main campus and at numerous off-campus locations.

UF/IFAS Extension operates offices and other facilities statewide and includes faculty at the state, regional and county levels. UF/IFAS Extension also administers the Florida 4-H Youth Development Program and other statewide programs open to the public.

In addition, UF/IFAS supports the Florida Sea Grant program, facilitates international collaborations and, along with UF Health, administers the UF College of Veterinary Medicine.

OUR JOURNEY

Hatch Act signed into law, creating Agricultural Experiment Station system at U.S. land-grant universities. UF/IFAS launches research program the following year.

UF opens operations in Gainesville with five academic programs, including agriculture.

Motivated partly by an ongoing citrus canker outbreak, in June the Florida Legislature authorizes creation of the first off-campus UF/IFAS research site, forerunner of the present-day Citrus REC in Polk County.

UF/IFAS Extension agent Edwin Hall Finlayson begins recommending Pensacola bahiagrass as a livestock forage; now Florida's most widely grown forage grass.

UF/IFAS releases 'Florida Ninety' strawberry; it soon becomes the state's dominant variety.

New World screw worm eradicated from the state, using sterile-insect technique procedures from UF/IFAS researchers.

1887

1906

1917

1935

1952

1959

1884

1892

1914

1928

1940s

1953

In October, Florida Agricultural College in Lake City opens its doors.

UF/IFAS releases its first crop variety, a forage called natalgrass.

The federal Smith-Lever Act formally creates the Cooperative Extension System. UF/IFAS launches Extension program the following year.

UF/IFAS agronomists create the first hybrid peanut variety.

In the early 1940s, two UF/IFAS faculty members contribute to creation of frozen concentrated orange juice.

In the mid-1940s, UF/IFAS livestock nutritionist George K. Davis conducts studies on cattle nutrition that end "salt sickness," a major challenge to the state's beef industry.

UF/IFAS School of Forestry forms the Cooperative Forest Genetics Research Program. Their work increased harvestable wood yields 40%-55% in slash pine.

UF/IFAS releases the 'Walter' tomato, resistant to Fusarium wilt race 2. Growers save an aggregate \$200 million annually.

1969

UF College of Veterinary Medicine opens its doors. Oversight is shared between UF/IFAS and UF Health.

1976

UF/IFAS citrus researchers begin recommending microirrigation for citrus trees, which is annually saving millions of gallons of water.

1981

UF/IFAS releases its first peanut with high levels of oleic oil. These varieties represent the fifth most valuable technology licensed by UF.

1994

UF/IFAS releases Tasti-Lee® tomato, a premium, vine-ripened variety with high lycopene content. Today, it's the nation's best-selling round tomato.

2006

UF/IFAS Honey Bee Research and Extension Laboratory opens on the UF main campus.

Hurricane Michael strikes Florida, causing an estimated \$138 million in losses to Panhandle-area field crop, row crop and livestock producers and losses of \$1.289 billion to foresters, a figure that covers several years' lost revenues.

2018

2020

1964

The name "UF Institute of Food and Agricultural Sciences" is adopted.

1973

'Floritam' St. Augustinegrass released jointly by UF/IFAS and Texas A&M University; today, it remains the dominant home turfgrass variety in Florida.

1977

UF/IFAS releases 'Florida Staysweet' sweet corn variety, which is used in developing many subsequent "supersweet" hybrids.

1985

The University of Florida is added to the prestigious Association of American Universities (AAU.)

1995

The Sentricon® subterranean termite colony elimination system reaches the market. The third most valuable technology licensed by UF, it has generated more than \$53 million in royalties.

2011

Laurel wilt disease reaches Miami-Dade County, putting the state's \$54 million avocado industry at risk. Today, UF/IFAS experts still battle the disease and its insect vector.

A close-up photograph of a male scientist in a laboratory. He is wearing a white lab coat over a pink collared shirt, black-rimmed glasses, and purple nitrile gloves. He is holding a white cylindrical container with his left hand and a clear glass tube with his right hand. The background shows a laboratory bench with various equipment and supplies. A blue semi-transparent banner is overlaid on the top left of the image, containing the text 'UF/IFAS College of Agricultural and Life Sciences' in white.

UF/IFAS College of Agricultural and Life Sciences



The UF/IFAS education mission is fulfilled by the UF/IFAS College of Agricultural and Life Sciences, also known as UF/IFAS CALS.

The college seeks to deliver unsurpassed educational programs that prepare students to face critical challenges related to agriculture, food systems, human well-being, natural resources and sustainable communities.

<https://cals.ufl.edu>

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VISION

Be the premier land-grant college of agriculture and related sciences.

We will be known for excellence in innovation in teaching and for the readiness of our graduates for leadership. We will be the destination of choice for students seeking academic programs in agriculture, natural resources and related sciences, and the pre-eminent source of talent for employers, graduate programs and professional schools.

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VALUES

Grounded in the land-grant ideals of access, innovation and relevance, UF/IFAS CALS promotes these core values in pursuit of its mission:

- Integrity
- Collaboration
- Diversity
- Service

WHO WE ARE

As of the fall semester 2019, UF/IFAS CALS has 4,250 undergraduate students, 1,693 graduate students, 340 non-degree-seeking students and 363 teaching faculty members, representing 14 departments and two schools. UF/IFAS CALS is one of the nation's largest colleges of agriculture and related sciences and is known for its accomplished faculty and diverse student body.

In fall 2019, 66% of UF/IFAS CALS undergraduates and 60% of UF/IFAS CALS graduate students are women. Minority students represent 28% of UF/IFAS CALS undergraduates and 16% of graduate students; international students represent 3% of UF/IFAS CALS undergraduates and 33% of graduate students.

The college values teaching excellence. UF/IFAS CALS has had more faculty members recognized by the U.S. Department of Agriculture with national and regional teaching awards than any other university in the nation. Administrators have established college-wide hubs for teaching enhancement and innovation: the CALS Teaching Resource Center and the Center for Online Learning and Technology (COLT).

To support faculty development in teaching and learning, UF/IFAS CALS holds a teacher's college and a teaching enhancement symposium every fall and supports a teaching retreat and a teaching and advising awards

UF/IFAS COLLEGE OF AGRICULTURAL AND LIFE SCIENCES

STATISTICS*



89%

of UF/IFAS CALS undergraduates are Florida residents.



International students represent

33%

of UF/IFAS CALS graduate enrollment.



55+

student organizations affiliated with UF/IFAS CALS.



11:1

student-to-faculty ratio.



Worldwide, there are more than

39,000

living UF/IFAS CALS alumni.

67%

live in Florida.



In terms of enrollment, UF/IFAS CALS is one of the

Top 5 largest colleges

of agriculture and related sciences in

the U.S. and has the **largest**

ag graduate program in the U.S.



18

USDA national and regional teaching awards since the program began in 1994.



\$592,228

in student scholarships awarded in the 2019-20 academic year.

\$1 million+

when combined with department scholarships.



465

on-campus faculty CY 2019.

178

off-campus faculty CY 2019.

363

total faculty with teaching appointments of at least 10% in CY 2019.



*Data collected fall 2019 unless otherwise noted.

program each spring. In 2019, UF/IFAS CALS began a mentoring academy to assist faculty in their role as graduate student mentors. Faculty are also selected each year to participate in the Roche Teaching Scholars program, to advance their course design skills and develop as teaching leaders.

WHAT WE DO

Today, UF/IFAS CALS offers 23 undergraduate degree programs and 22 graduate majors. Eight of our master's programs and two bachelor's programs are delivered 100% online.

In addition, UF/IFAS CALS has a selection of minors and certificate programs available to undergraduate and graduate students. These include 29 undergraduate minors, 11 undergraduate certificates (seven of which are fully online) and 25 graduate certificates (21 of which are fully online).

PRIORITIES & 2015-2020 GOALS

Priority 1: Recruit and retain outstanding students.

Goal 1: Enhance the quality of admitted graduate students through investment in recruiting.

Goal 2: Enhance existing and develop new partnerships to broaden the recruiting base for undergraduate students.

Priority 2: Provide relevant curricula.

Goal 3: Develop a lower-division college-wide course on current issues in agriculture, natural resources and related sciences.

Priority 3: Promote excellence in teaching.

Goal 4: Invest in assistance for faculty in design/redesign of face-to-face courses to enhance student engagement and learning.

Goal 5: Develop new mechanisms for recognizing excellence in teaching.

Priority 4: Produce society-ready graduates.

Goal 6: Increase student participation in experiential learning opportunities.

Many UF/IFAS CALS bachelor's graduates go on to enter professional programs in medicine, pharmacy, dentistry, veterinary medicine and law. Some earn advanced degrees in agricultural and natural resources disciplines and secure positions in academia, government or the private sector. Others enter the workforce immediately after earning an undergraduate degree, pursuing careers as research scientists, crop consultants, economists, industry executives, Extension agents, teachers, entrepreneurs and more.

Many of the state's leading business, political and scientific figures are UF/IFAS CALS graduates. Notable alumni include current and former state legislators and congressmen, former commissioners of agriculture, a Heisman Trophy winner and two of three co-developers of frozen concentrated orange juice. Since 1980, there have been 55 CALS graduates inducted into the Florida Agricultural Hall of Fame.

Priority 5: Strengthen alumni and stakeholder connections.

Goal 7: Create new opportunities for alumni and professionals to connect to UF/IFAS CALS students.

The following programs are examples of our work toward these goals:

- In spring 2019, UF/IFAS CALS began the NavigATORing CALS program — a day-long campus experience with classroom visits, tours and a tailored agenda for each participant.
- In 2016, UF/IFAS CALS started the Florida Youth Institute in collaboration with the Florida Department of Agriculture and Consumer Services and The World Food Prize — a week-long summer program for high school students. Participants engage with local leaders and experts on critical global challenges, participate in hands-on activities and explore exciting ways to make a difference in Florida and around the world. Since 2018, the college has offered two sessions of the program.

- UF/IFAS CALS partners with the UF Colleges of Liberal Arts and Sciences, Engineering, Health and Human Performance and Pharmacy and the Provost's Office to offer SURF: Summer Undergraduate Research at Florida for prospective Ph.D. students.
- UF/IFAS CALS prepares students to enter the workplace by offering services and resources in the following areas: career exploration, job and internship search guidance, resume/CV and cover letter development, mock interviews and personal statement reviews.
- The college offers the annual CALS Career Expo, a career fair for students.
- Internships are available each year to UF/IFAS CALS students through the Research and Extension branches of UF/IFAS.
- UF/IFAS CALS offers the only upper-division honors certificate program at UF. Students complete specialized coursework, mentored research and an honors thesis.
- Over the course of 17 months, CALS Leadership Institute program participants engage in leadership modules, an international travel experience and are paired with a mentor. Since its inception in 2009, 94 students have completed this premier program.
- The UF/IFAS CALS Field & Fork Campus Food Program provides opportunities for collaboration and learning in sustainable agriculture and food systems. Core parts of this program include the Field & Fork Farm and Gardens and the Alan and Cathy Hitchcock Field & Fork Pantry.
- 80% of UF/IFAS CALS undergraduate students complete at least one of the following: internship, undergraduate research or study abroad experience.



Learn more about the UF/IFAS College of Agricultural and Life Sciences here:

<https://tinyurl.com/IFAS-CALS>

UF/IFAS CALS MAJORS

Agricultural and Biological Engineering^{^~}
 Agricultural Education and Communication^{*^~}
 Agricultural Operations Management^{*}
 Agronomy^{^~}
 Animal Molecular and Cellular Biology^{^~}
 Animal Sciences^{*^~}
 Biological Engineering^{*}
 Biology^{*‡}
 Botany^{*‡}
 Dietetics^{*}
 Entomology and Nematology^{*^~}
 Environmental Management in Agriculture and Natural Resources^{*}
 Environmental Science^{*}
 Family, Youth and Community Science^{*^~}
 Fisheries and Aquatic Sciences^{^~}
 Food and Resource Economics^{*^~}
 Food Science^{*~}
 Food Science and Human Nutrition[^]
 Forest Resources and Conservation^{*^~}
 Genetics and Genomics[~]
 Geomatics^{*}
 Horticultural Science^{*}
 Horticultural Sciences – Environmental Horticulture^{^~}
 Horticultural Sciences – Horticultural Sciences^{^~}
 Interdisciplinary Ecology^{^~}
 Marine Sciences^{*‡}
 Microbiology and Cell Science^{*‡^~}
 Natural Resource Conservation^{*}
 Nutritional Sciences^{*~}
 Plant Medicine[~]
 Plant Molecular and Cellular Biology^{^~}
 Plant Pathology^{^~}
 Plant Science^{*}
 Soil and Water Sciences^{*^~}
 Wildlife Ecology and Conservation^{*^~}
 Youth Development and Family Sciences[~]

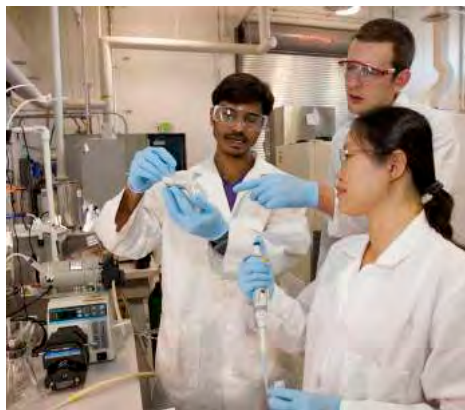
Key:

- * Bachelor's Program
- ‡ Shared Bachelor's program with the College of Liberal Arts and Sciences
- ^ Master's Program
- ~ Ph.D. Program

UF/IFAS CALS STUDY ABROAD PROGRAMS

The college offers study abroad programs in 16 countries on six continents and participates in several student exchange programs. Led by UF/IFAS faculty, these programs are designed specifically for students in agriculture, life sciences, forestry, ecology and related majors.

As of 2019, UF/IFAS CALS was one of the top five participating UF colleges in study abroad enrollment. Since 2006, 20 UF/IFAS CALS students and faculty have been selected as Fulbright Scholars.



UF/IFAS Research





The UF/IFAS Research enterprise, conducted under the auspices of the Florida Agricultural Experiment Station, fulfills its research mission to discover new knowledge, encourage innovative study and create applications based on sound science that address challenges facing agriculture, natural resources and interrelated human systems in Florida, our country and our world.

<https://research.ifas.ufl.edu>

WHO WE ARE

The UF/IFAS Research enterprise represents the work of 558 faculty members with research appointments, hailing from every academic department and discipline within UF/IFAS. Their studies address significant issues confronting Florida industries, communities and individuals. Many UF/IFAS researchers are internationally renowned for their expertise and scientific achievements and routinely garner honors and awards.

Research projects are conducted at the UF main campus in Gainesville and at off-campus locations throughout the state, including 12 research and education centers, five research and demonstration sites, several beef cattle units, a teaching and research forest and a dairy farm.

Funding for UF/IFAS research activity comes from a variety of sources, including federal grants, state appropriations, support from producers, contracts and grants, donations and licensing revenues from crop cultivars and technologies developed by UF/IFAS personnel.

WHAT WE DO

The UF/IFAS Research Office provides the leadership and financial support needed to build and maintain impactful research programs, helps enrich graduate and undergraduate research experiences, promotes training and recognition for research personnel and fosters collaborative interactions between business, agencies and faculty.

Agricultural topics researched at UF/IFAS include, but are not limited to, pest and disease management, nutrient management, improved crop varieties, biotechnology, livestock reproduction and health, irrigation and food safety. Natural resources topics under study include, but are not limited to, climate variability, water quality and conservation, energy conservation, land-use issues, wildlife, invasive species, fisheries, forest science, ecotourism, ecology and ecosystem services. In human systems, studies by UF/IFAS researchers investigate topics such as global competitiveness, labor-saving technologies, marketing, consumer behavior, financial management, child and family development, human nutrition, agricultural education, sustainable development, communities and economics.

Each spring, the Florida Agricultural Experiment Station Research Awards Ceremony acknowledges outstanding student, faculty and staff achievements including graduate student awards, high impact publications, an outstanding new faculty member award, plant and utility patent recognitions and a research service award.

UF/IFAS RESEARCH

STATISTICS*



Every \$1 invested

in agricultural research and development

**returns \$20
in benefits**

from increased agricultural productivity.*



Every year since FY 2000-01,
UF/IFAS has ranked

1st or 2nd

among U.S. universities in agricultural
research and development expenditures.

Our researchers
published



1,611

papers in refereed
journals in CY 2018.



UF/IFAS Research garnered

\$161.3 million

in sponsored projects in FY 2018-19.



UF/IFAS Research includes

6 National Academy of
Sciences members and

16 Fellows of the
American Association for the
Advancement of Science.



UF/IFAS plant breeders received

13

plant patents and plant variety
protection certificates in FY 2018-19.



In CY 2018, the
UF/IFAS Research
enterprise included

558

UF/IFAS faculty
members
with research
appointments.

*Alston, J.M., Andersen, M.A., James, J.S., and Pardey, P.G., 2010. Persistence Pays: U.S. Agricultural Productivity Growth and the Benefits From Public R&D Spending. New York: Springer.

GOALS

» Research Programs

Expand our global leadership in transformational basic and applied research by developing “seed” programs to support strategic research initiatives, increasing awareness of funding opportunities, and funding targeted investments in equipment and infrastructure.

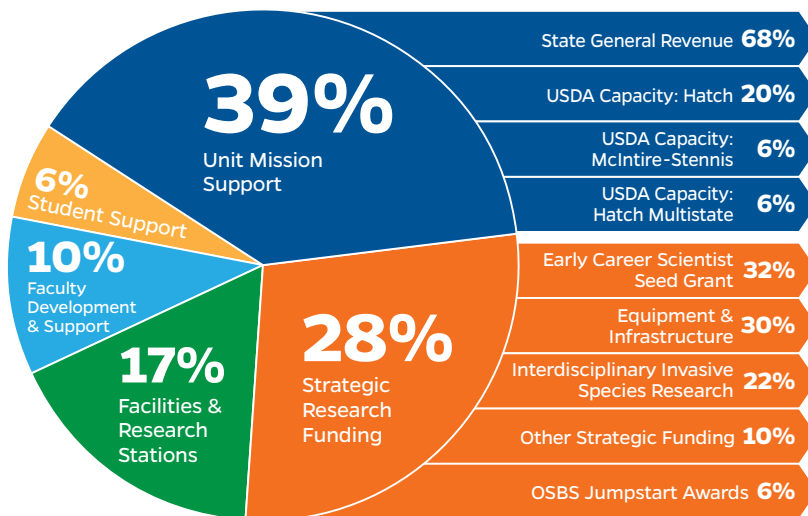
» Research Culture

Strengthen innovation and discovery by encouraging the recruitment and retention of diverse, top-performing faculty and staff, developing and improving student research experiences, and promoting synergies between the land-grant missions.

» Research People

Build satisfaction and quality of life on the job for faculty and staff by facilitating professional development, fostering an inclusive and collegial environment, promoting faculty and staff achievements, and recognizing distinction in disciplinary and interdisciplinary research.

TOTAL FUNDING PROVIDED BY THE UF/IFAS RESEARCH OFFICE TOTALING \$8.8 MILLION (M) FY 2017-18



Learn more about the UF/IFAS Research here:
<https://tinyurl.com/UFIFAS-Research>

UF/IFAS BIOLOGICAL FIELD STATIONS

UF/IFAS ORDWAY-SWISHER BIOLOGICAL STATION

The UF/IFAS Ordway-Swisher Biological Station (OSBS) is a research support facility established for the long-term study and conservation of unique ecosystems. OSBS currently comprises more than 9,500 acres of wilderness areas, with modern building facilities to support research, education and conservation efforts. At OSBS, scientists from various disciplines and institutions work to integrate multidisciplinary, place-based knowledge to evaluate environmental change and predict how biological systems may respond to it in the future.

UF/IFAS NATURE COAST BIOLOGICAL STATION

In 2015, UF/IFAS founded the Nature Coast Biological Station in Cedar Key, Florida. The station provides modern laboratory and classroom facilities for a range of teaching, research and Extension initiatives on Florida’s Nature Coast, one of the least-developed stretches of coastline in the U.S. Through partnerships with agency cooperators, coastal industries and local communities, NCBS seeks to improve the conservation and management of natural resources in the region.

UF/IFAS Extension





UF/IFAS Extension is a statewide network of experts that fulfills the UF/IFAS outreach mission by partnering with communities to provide high-quality, relevant education and research-based expertise to foster healthy people, healthy environments and healthy communities.

<https://sfyl.ifas.ufl.edu>

WHO WE ARE

As a land-grant institution, UF needs a statewide presence to serve citizens in every part of Florida. UF/IFAS Extension meets this need, providing science-based information to residents and producers, and relaying concerns and questions to UF/IFAS researchers when appropriate.

Besides operating offices in all 67 Florida counties, UF/IFAS Extension employs state specialists who are appointed to UF/IFAS CALS' 14 academic departments and two schools, and who are stationed at the UF main campus and at off-campus locations. Furthermore, UF/IFAS Extension reaches clients in Florida and beyond via print and online resources, video and social media.

UF/IFAS Extension agents form the backbone of the program; 359 are employed statewide as of summer 2019. Most agents have positions that are dedicated to one or more broad topics, such as horticultural crops, commercial agriculture, 4-H youth development, family and consumer sciences, Sea Grant or natural resources.

In addition, UF/IFAS Extension employs 278 statewide specialists, who provide insightful guidance to producers dealing with high-value crops and other concerns. These specialists address citrus production, livestock, seafood, aquaculture, urban horticulture, family resources, youth development and more.

UF/IFAS Extension is funded by federal, state and county sources and we have faculty working in every Florida county. This situation has the effect of keeping UF/IFAS Extension personnel in close contact with local leaders, focusing on local concerns via grassroots engagement.

WHAT WE DO

All UF/IFAS Extension offices disseminate science-based information to clients, helping them solve problems related to agriculture, horticulture, natural resources, water, energy, youth, families and community issues. To accomplish their objectives, UF/IFAS Extension personnel conduct educational events, distribute educational materials and answer questions from callers and visitors.

UF/IFAS Extension offers training and professional development opportunities to personnel in agriculture and related industries, administers the Florida 4-H Youth Development Program, the Florida Master Naturalist Program and the Florida Master Gardener Volunteer Program, and maintains a massive online Extension document library, the Electronic Data Information Source (EDIS).

UF/IFAS EXTENSION

STATISTICS



In CY 2018
 UF/IFAS Extension had
30,365
 volunteers who gave
1,317,853
 hours of service,
 a \$33,513,002 value¹

Source: UF/IFAS Workload Database
¹2018 National Value of Volunteer Time = \$25.43/hr,
 independentsector.org



29.4
million
 client connections
 made in CY 2018.

Source: UF/IFAS Workload Database



In CY 2018 of
 participants surveyed,
82%
 of those who used
 UF/IFAS Extension
 information said it
**solved their
 problem**

Source: Program Development & Evaluation Center

Of that funding,



UF/IFAS Extension received
\$120.9 million
 in funding in FY 2018-19.

Source: UF/IFAS Extension Administration Office
 and UF Office of Research



4.0%
 came from
 federal sources,



42.1%
 from
 state sources,

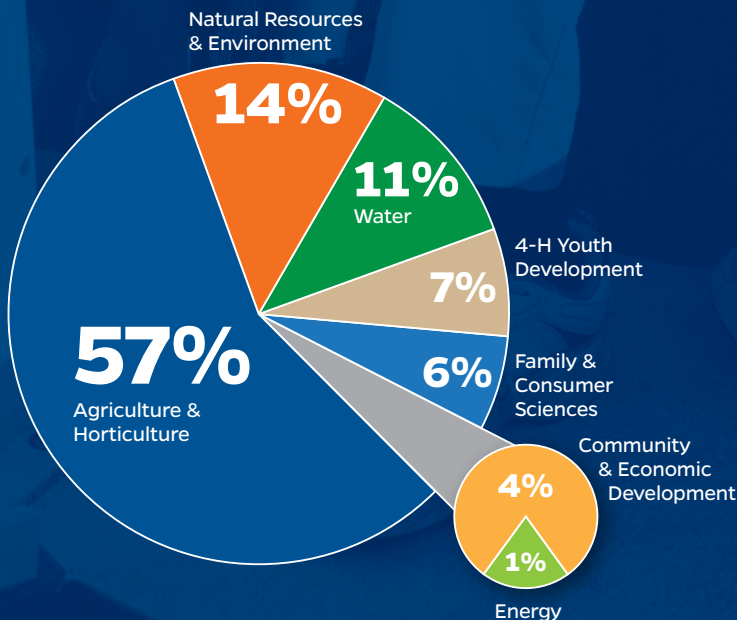


28.2%
 from county
 sources and

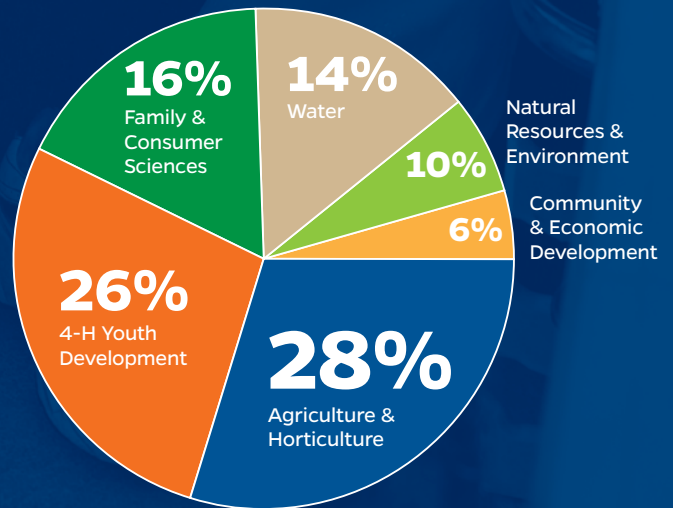


25.7%
 from contracts
 and grants.

State Faculty by Program Area (CY 2018)



County Faculty by Program Area (CY 2018)



UF/IFAS EXTENSION AND UF ENGAGEMENT

UF/IFAS Extension has faculty on the UF main campus, at 12 Research and Education Centers located throughout the state and offices in each of Florida's 67 counties. It partners with UF colleges and research centers as well as with county governments and local agencies to provide education and programming to serve local needs.

Extension partners with faculty across the UF community, supporting the UF strategic plan to strengthen public engagement. This strategic initiative:

- Extends the reach of the university
- Reaches underserved populations
- Increases opportunities for students to gain experience in the community
- Engages in multi-disciplinary work

Example partnerships:

- **College of Health and Human Performance**
UF/IFAS Extension has provided internship opportunities for Health Education and Behavior students, which has benefited Extension, the community and the students.
- **College of Liberal Arts and Sciences**
UF/IFAS Extension collaborated with the Center for Humanities on a grant-funded project to see how arts and humanities address social problems.
- **College of Design, Construction & Planning**
Faculty have engaged in land-use and architectural development for a county, based on collaboration with UF/IFAS Extension faculty. This work was used as an opportunity to engage students and provide them with hands-on experience in the community.
- **College of Public Health & Health Professions**
UF/IFAS Extension collaborated with researchers to engage in grant-funded obesity prevention and treatment programs in rural communities. Programming continued after the grant ended, by programming conducted through Extension.
- **College of the Arts**
The Center for Arts in Medicine has partnered with UF/IFAS Extension to increase opportunities for rural residents to engage in the arts for purposes of healing, and this has allowed for hands-on student experiences during spring break.

2015-2020 GOALS

1. Increasing the sustainability, profitability and competitiveness of Florida's agricultural and natural resources industries.
2. Enhancing and protecting water resources.
3. Enhancing and conserving Florida's natural resources and environmental quality.
4. Producing and conserving traditional and alternative forms of energy.
5. Empowering individuals and families to lead healthy, successful lives.
6. Strengthening urban and rural communities.
7. Preparing youth to be responsible, successful adults.



Learn more about UF/IFAS Extension here:
<https://tinyurl.com/IFAS-Extension>

College of Veterinary Medicine



As the state's only veterinary medical college, the UF College of Veterinary Medicine is focused on advancing the health and welfare of animals, humans and the veterinary medical profession by offering a world-class education, innovative research and state-of-the-art clinical services.

Supported jointly by UF/IFAS and UF Health, the College of Veterinary Medicine opened its doors in 1976. The college includes the UF Veterinary Hospitals, which offer exceptional health care to large and small animals from cattle and horses to pets and exotic species. Extension and food-animal services provide crucial resources to local cattle ranches, dairy farms, horse enthusiasts and wildlife managers.

Veterinary medical school faculty members with UF/IFAS appointments have made many

contributions to animal health care, notably the Master Hoof Care Program for dairy cattle. This instructional program teaches dairy workers proper hoof-trimming practices to prevent foot disorders; it has been adopted worldwide.

With a commitment to preeminence in teaching, the college's D.V.M. graduates have consistently ranked above the national average on the North American Veterinary Licensing Examination for the past several years. The College of Veterinary Medicine offers six degree programs and special interest certificate programs in Aquatic Animal Health, Veterinary Business Management, Food Animal Veterinary Medicine and Shelter Medicine. In 2017, the college received 1,274 D.V.M. program applications for 120 openings. A state-of-the-art clinical skills lab provides a training



environment for veterinary medical students to enhance their clinical and technical skills.

As a major leader in the research arena, the college is internationally recognized for its world-class basic science research in areas such as mucosal immunology, traumatic neural injury and vaccine development. Other key research initiatives focus on shelter medicine, aquatic animal health, infectious disease and “One Health,” aimed at enhancing animal, human and environmental health.

The UF Veterinary Hospitals serve as a major referral center, offering a broad range of medical and surgical services and advanced diagnostics, annually treating more than 38,000 small and large animals. A new UF Equine Acupuncture Center recently opened in Marion County to better serve equine clientele in the area. The UF Pet Emergency Treatment Services clinic in Ocala celebrated its five-year anniversary in 2018.

- The college is an international leader in the area of disaster response, leading and training in different aspects of animal rescue.
- The college became the first veterinary medical college in the world to use true-to-life synthetic canine cadavers in student surgery labs and was involved in developing the technology with the manufacturer, Syndaver Canine.
- The UF Small Animal Hospital has one of the only dedicated interventional radiology and cardiology facilities in the nation.
- The college is leading a \$10 million collaborative research grant from the Centers for Disease Control and Prevention in the area of vector-borne diseases, addressing issues such as how to stop the spread of Zika in the U.S.

For more information, please visit vetmed.ufl.edu.



SUCCESS STORY

Florida is home to about 116,000 dairy cows, and their well-being is a top concern for Dr. Ricardo Chebel, an associate professor with the UF College of Veterinary Medicine. In 2016, he co-founded the nationwide non-profit Dairy Cattle Welfare Council with a colleague from The Ohio State University. The council includes scientists, veterinarians, industry figures and dairy producers among its members and promotes animal welfare.



Learn more about the College of Veterinary Medicine here: <https://tinyurl.com/CVM-Video>

UF/IFAS FACTS AT A GLANCE

Ranked
No. 7
among U.S. public
universities by
U.S. News &
World Report.

In CY 2018,
510,562
clients served
by UF/IFAS
Extension Florida
Master Gardener
Volunteer
Program.

1,611
research papers in
refereed journals
in CY 2018.

1st or 2nd
among U.S.
universities for
agricultural research
and development
expenditures,
every year since
FY 2000-01.

6,283
UF/IFAS
CALs students
enrolled in fall
semester 2019.

Worldwide, there
are more than
39,000
living UF/IFAS
CALs alumni.

974
crop
variety licenses
executed in
CY 2013-18.

UF/IFAS has
released more than
60
ornamental coleus
varieties.

14
academic
departments and
two schools in
UF/IFAS CALs.

UF/IFAS
has released
more than
35
blueberry
varieties.

In 1999,
UF/IFAS CALs
launched the
world's 1st
Doctor of Plant
Medicine program.

Example of UF/IFAS
Extension impact:
386,541,761
gallons of water saved
in CY 2018 — enough
water to supply
4,393
households with water
for one year.

More than
30
UF/IFAS
plant breeders
generate new
varieties.

Cedar Key's cultured-clam industry, launched with UF/IFAS assistance, now brings producers **\$45 million** in dockside revenues each year.

About **400,000** acres of sugarcane is grown in Florida — more than **90%** of it varieties developed collaboratively by UF/IFAS and USDA researchers at the USDA facility in Canal Point.

Based in UF/IFAS, the School of Natural Resources and Environment has affiliate faculty from **56** departments in **12** UF colleges.

95% of Florida's commercial blueberry acreage is planted in UF/IFAS varieties.

'Floratum' St. Augustinegrass was released in 1973 by UF/IFAS and Texas A&M. It's been Florida's **No. 1** residential turfgrass choice ever since.

\$4.1 million in tropical fruit losses due to oriental fruit fly in CY 2015-16. Action by UF/IFAS, USDA and FDACS contained the outbreak, potentially saving growers another **\$19 million** in losses.

198,032 youth served by Florida 4-H in CY 2018.

Total graduate student enrollment in UF/IFAS CALS has nearly **doubled** in the past 15 years.

70% of royalties from UF/IFAS licensed crop varieties are returned to breeding programs to fund further innovation.

There is only **1** tropical foliage plant breeding program in the world. It's located at the UF/IFAS Mid-Florida REC in Apopka.

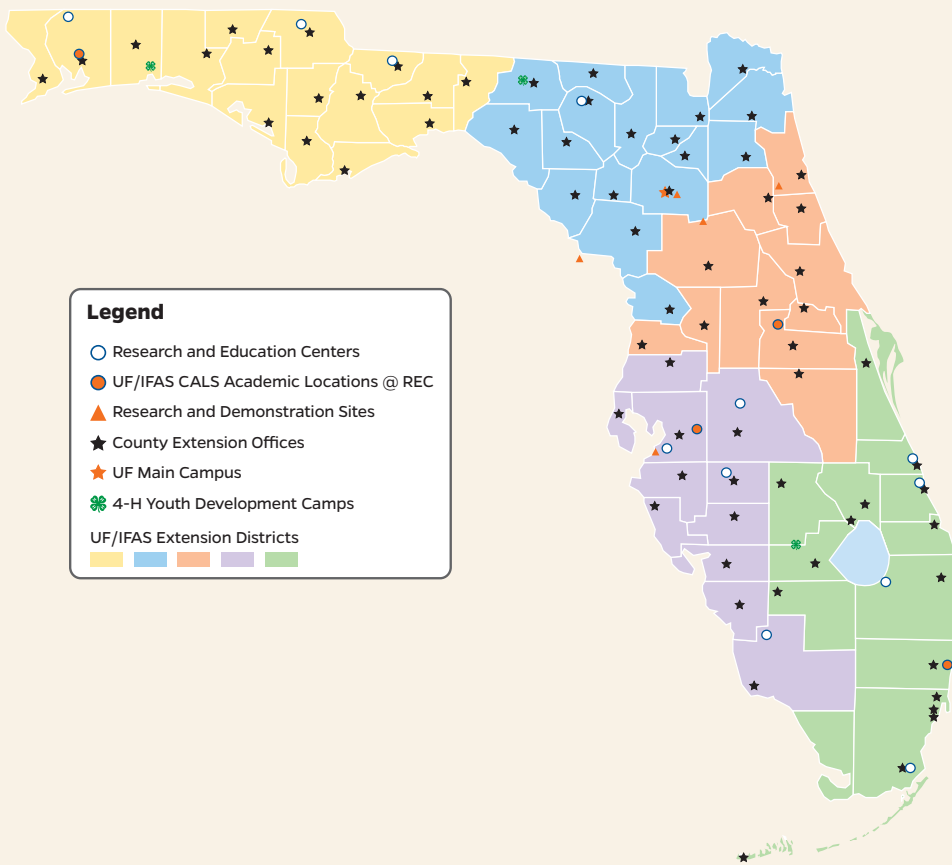
UF/IFAS crop-breeding programs are active at **10** facilities statewide.

Improved pine varieties released by the Cooperative Forest Genetics Research Program, a collaboration between UF/IFAS researchers and industry, boost Florida foresters' annual revenues by an estimated **\$500 million**.

Florida supplies more than **95%** of the world's commercial caladium tubers. UF/IFAS has released dozens of colorful new varieties since 1993.



UF/IFAS STATEWIDE LOCATIONS



UF/IFAS Statewide

When UF/IFAS says it has a statewide presence, it walks the talk.

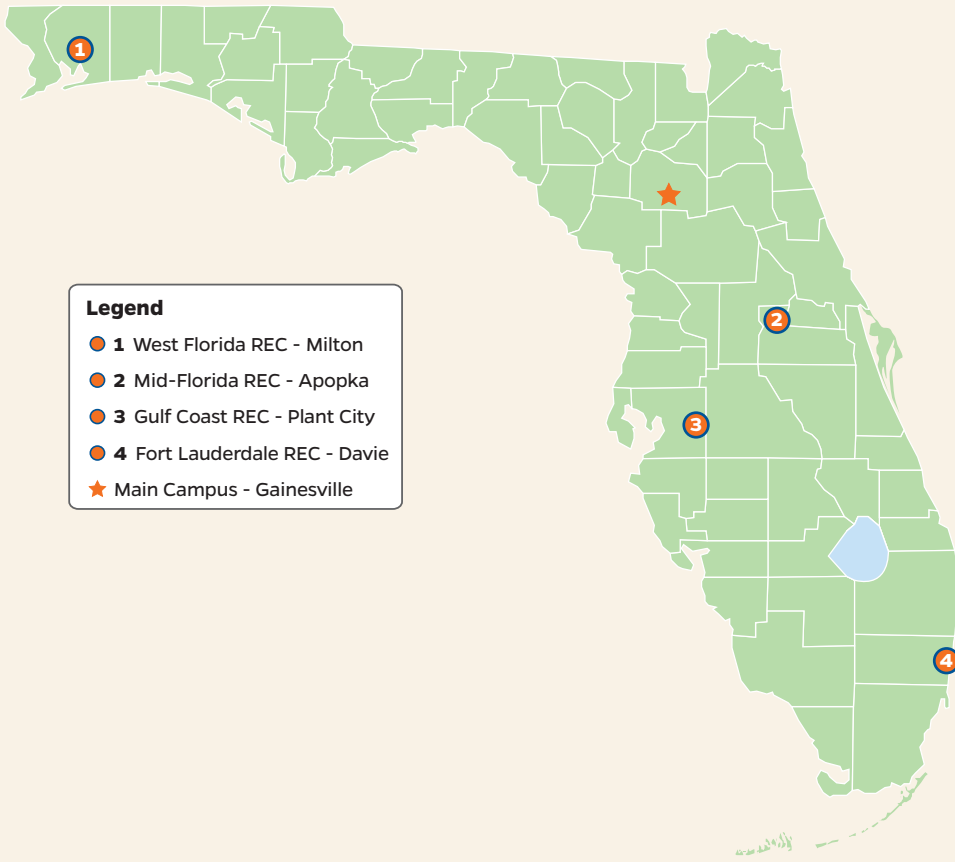
With teaching locations located in diverse communities far from Gainesville, faculty-staffed off-campus research facilities across the state and an Extension office located in every county, UF/IFAS is truly in the neighborhood. This location strategy supports research and outreach specific to a region's economic and environmental needs. The result – statewide programs with a local focus that impact all Floridians.

UF/IFAS research and education centers have faculty from multiple IFAS academic departments housed and operating at each center. For example, research and Extension operations in Miami-Dade County focus on tropical conditions and urban and rural challenges, with leadership from the departments of horticulture and food and resource economics. Southwest Florida has programs in vegetable production, sea-level rise, algal blooms and water quality. Offices along the central ridge specialize in citrus and scientists and agents in the Panhandle have strong peanut, forestry and cattle programs.

Combined with the depth of scholars working at the Gainesville campus, UF/IFAS serves the state with the breadth of a comprehensive enterprise that is not only one of the largest in the nation but also one of the most varied and accomplished.

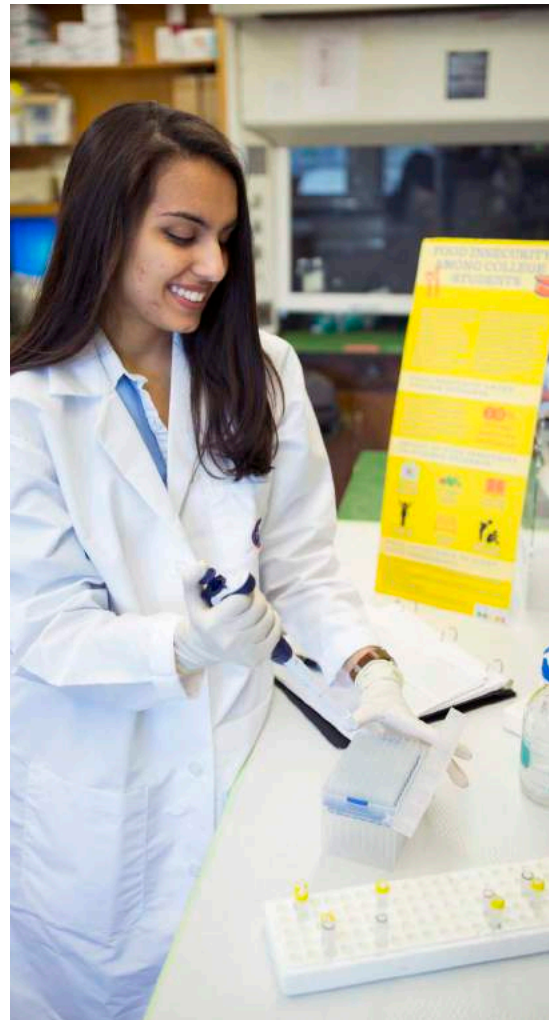


UF/IFAS TEACHING LOCATIONS



Legend

- 1 West Florida REC - Milton
- 2 Mid-Florida REC - Apopka
- 3 Gulf Coast REC - Plant City
- 4 Fort Lauderdale REC - Davie
- ★ Main Campus - Gainesville



UF/IFAS CALS

In addition to the Gainesville location, UF/IFAS CALS students pursue degrees online (two undergraduate programs and eight master's programs) or at several of our statewide locations outside of Gainesville.

Graduate students are located at each of the UF/IFAS research and education centers, where they engage with research faculty and take courses both from REC faculty and online from Gainesville.

Selected undergraduate majors are offered at four statewide locations for transfer students. The purpose of these UF/IFAS CALS statewide course offerings is to reach place-bound students.

Classes are scheduled primarily in the evenings to accommodate the schedules of those who work full-time. Each program is a blend of live and online classes to enhance flexibility and minimize travel. Class size is small, and students develop close working relationships with the faculty, staff and other students. Each location has a unique learning environment, including libraries, classrooms, computer facilities and excellent field and laboratory facilities.

Apopka – UF/IFAS Mid-Florida Research and Education Center

Majors offered: Geomatics; Plant Science

Fort Lauderdale – UF/IFAS Fort Lauderdale Research and Education Center

Majors offered: Geomatics; Plant Science

Milton – UF/IFAS West Florida Research and Education Center

Majors offered: Natural Resource Conservation; Plant Science

Plant City – UF/IFAS Gulf Coast Research and Education Center

Majors offered: Agricultural Education and Communication; Food and Resource Economics; Geomatics

In fall 2019, UF/IFAS CALS Distance Education programs serve:

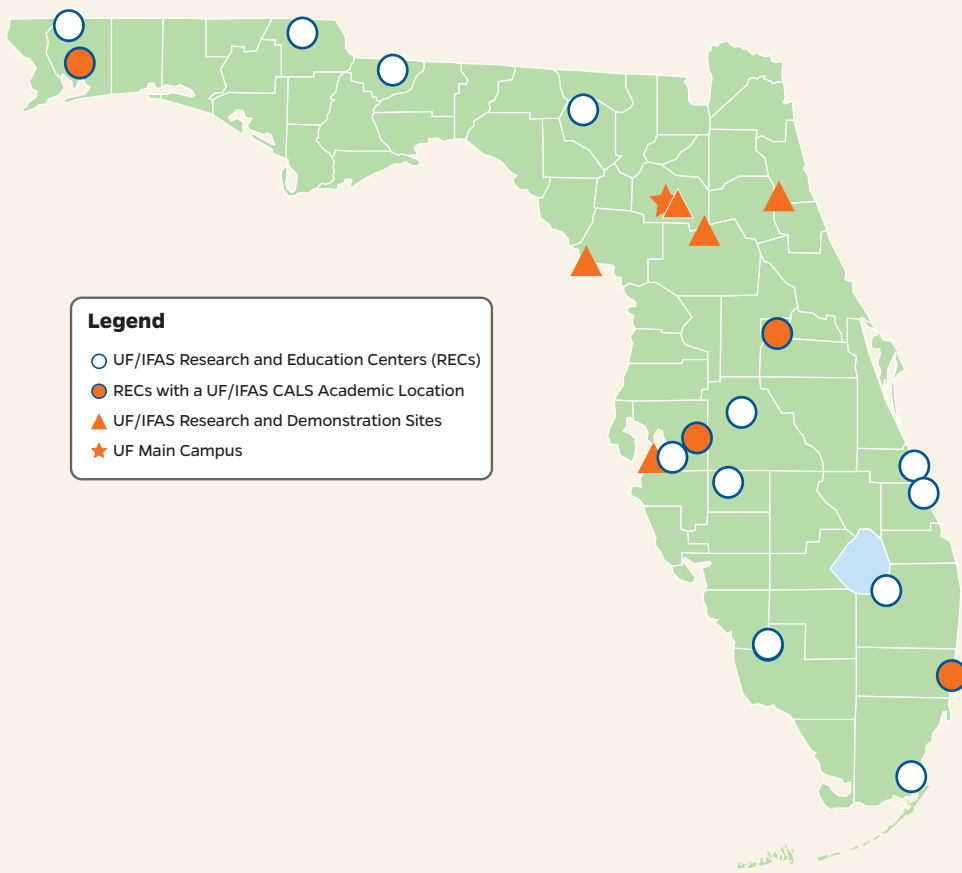
- 163 students in our two online bachelor's degree programs;
- 145 students in our bachelor's degree programs at the four statewide locations;
- 191 graduate students located at UF/IFAS RECs;
- 470 students in online master's degree programs;
- 106 students in online undergraduate certificate programs; and
- 19 students in online graduate certificate programs.



Learn more about the UF/IFAS College of Agricultural and Life Sciences here: <https://tinyurl.com/IFAS-CALS2>



UF/IFAS RESEARCH LOCATIONS



Legend

- UF/IFAS Research and Education Centers (RECs)
- RECs with a UF/IFAS CALS Academic Location
- ▲ UF/IFAS Research and Demonstration Sites
- ★ UF Main Campus

RESEARCH & EDUCATION CENTERS

Mid-Florida Research and Education Center (MREC)

Located in the heart of Florida's greenhouse and nursery industry in Apopka, the Mid-Florida Research and Education Center's research focuses on plant breeding, production and protection, and on use in urban landscapes. MREC researchers understand the urban pressures on the foliage, landscape, ornamental and high-value plant industries. Researchers study how to protect plants against pests, diseases and weeds to maximize production, and better understand consumer preferences and economics. MREC is home to the weekly Plant Diagnostic Clinic and educational programs provided by UF/IFAS Extension agents. These programs support local industry and homeowners by answering questions and guiding management decisions based on UF/IFAS research.

Greatest accomplishment: Greatly impacted Florida's tropical foliage plant industry through research into cultivar development, fertilization, water and temperature, disease and pest management, and indoor lighting, and through contributions to shipping and transportation.

Citrus Research and Education Center (CREC)

The past century has seen Florida's citrus industry grow from the fresh-fruit packinghouses of early pioneers to today's billion-dollar industry for processed juice and fresh fruit. At the Citrus Research and Education Center in Lake Alfred, scientists and engineers have made numerous key scientific discoveries and technological advancements that have been pivotal to the industry's development.

Greatest accomplishment: Guided the development of crop production practices that made citrus Florida's iconic agricultural commodity. CREC's most notable contributions are improved irrigation and fertilization programs, development of freeze-protection practices and implementation of pest and disease management practices.

Gulf Coast Research and Education Center (GCREC)

The Gulf Coast Research and Education Center in Wimauma is committed to sharing new science-based information and technology that will help Florida's agricultural industry compete in a global marketplace. GCREC researchers work on a variety of projects — from breeding new disease-tolerant fruit and vegetable varieties to developing new treatments to control weeds.

Greatest accomplishment: Developed low-chill blueberry, peach and strawberry fruit varieties that provide Florida growers timing and economic advantages in national markets.

North Florida Research and Education Center (NFREC)

The North Florida Research and Education Center consists of research and education campuses in Quincy and Marianna. The research and Extension programs at NFREC specialize in agronomy and plant science, specifically addressing commercial row-crop farming common in the northeastern part of Florida, such as cotton and peanuts. NFREC has distinguished itself as a leader in cow/calf research, with a focus on nutrition and artificial insemination.

Greatest accomplishment: Saved soybean farmers approximately \$300 million per year by combatting Asian soybean rust through Integrated Pest Management programs, monitoring the annual spread of the disease and working with breeders to develop disease-resistant plants.

West Florida Research and Education Center (WFREC)

The West Florida Research and Education Center maintains a research facility in Jay and offers academic programs in Milton addressing the unique needs of commodities grown in Florida's Panhandle and ecological concerns regarding north Florida wetlands. WFREC is a leader in row-crop research as well as ecology and

conservation. The Milton academic programs share knowledge gained by research conducted at the Jay location and offer bachelor's degree programs in natural resource conservation and plant science.

Greatest accomplishment: Released the Centennial soybean in the 1980s. This was the first soybean cultivar resistant to soybean root knot and soybean cyst nematodes. It was planted on more acreage in the Southeast than any other soybean cultivar.

Range Cattle Research and Education Center (RCREC)

The Range Cattle Research and Education Center is a multidisciplinary research and Extension center located in Ona. Founded in 1941 through the efforts of legislators, cattlemen, and citizens, the research center has 2,840 acres of native and developed pastures and approximately 1,200 head of cattle. Research at RCREC is designed to serve the south Florida cattle industry, where two-thirds of Florida's cattle are located, as well as cooperate on research to address important statewide problems.

Greatest accomplishment: Developed, evaluated and disseminated forage cultivars and sustainable management practices for subtropical and tropical cattle grazing ecosystems.

Fort Lauderdale Research and Education Center (FLREC)

The Fort Lauderdale Research and Education Center is an internationally recognized hub located in the heart of south Florida within the town of Davie. At the core of FLREC research is a distinctive combination of commercial, urban horticultural and environmental concerns associated with south Florida. Scientists focus on developing sustainable management programs for tropical and subtropical landscape systems, reducing the impact of invasive animals and plants on both natural and highly urbanized habitats, and promoting wildlife ecology and conservation.

Greatest accomplishment: Revolutionized the way subterranean termites are controlled. FLREC research led to the development of today's industry go-to termite control system, Sentricon®.

Tropical Research and Education Center (TREC)

Located in Homestead, the Tropical Research and Education Center's primary focus is on tropical and subtropical fruit crops, traditional and tropical vegetables, tropical ornamental crops, energy crops and natural resources in the warm subtropics. Celebrating its 90th anniversary in 2019, TREC is recognized as a center of excellence in basic and applied research in natural resources conservation and in the areas of soil and water sciences, hydrology, agricultural economics, ornamental horticulture, entomology and nematology and plant pathology.

Greatest accomplishment: Developed mass-rearing techniques for sterile fruit fly releases that led to the biological control of Caribbean fruit flies throughout the United States, preventing significant crop damage.

Indian River Research and Education Center (IRREC)

The Indian River Research and Education Center in Fort Pierce is known internationally for cutting-edge research and Extension programs and for cultivating tomorrow's leading scientists. The center provides regional leadership to agriculturalists through those research and Extension programs, including biological, chemical and cultural pest management that utilizes entomology, virology and plant pathology of citrus, ornamental and vegetable crops, as well as studies on control of invasive plants.

Greatest accomplishment: Developed and implemented Best Management Practices for Florida water quality and use by focusing on water volume, sediment transport, pesticides and metals, nutrients and aquatic weeds.

Southwest Florida Research and Education Center (SWFREC)

The Southwest Florida Research and Education Center is located on 320 acres in Immokalee and is dedicated to serving the needs of growers, farmers and communities in Charlotte, Collier, Glades, Hendry and Lee counties. It has served a diverse set of needs for the area's agricultural industry, students and communities since 1958. Through research and Extension

programs, SWFREC improves practices used by growers across the state to address agricultural production issues and protection of natural resources.

Greatest accomplishment: Collaborated with GCREC to modify the raised-bed plastic-mulch integrated system for vegetable and small-fruit production in Florida. This system is used extensively worldwide with advantages ranging from reduced evaporation to improved plant growth.

Florida Medical Entomology Laboratory (FMEL)

The Florida Medical Entomology Laboratory, located in Vero Beach, is recognized as one of the world’s largest research institutions devoted to the understanding and control of medically important and biting insects. FMEL educates students and professionals from around the world serving in a variety of areas, including public health, veterinary science, mosquito control, urban planning and engineering and wetlands management. FMEL faculty have published more

than 1,100 scientific publications in national and international peer-reviewed journals.

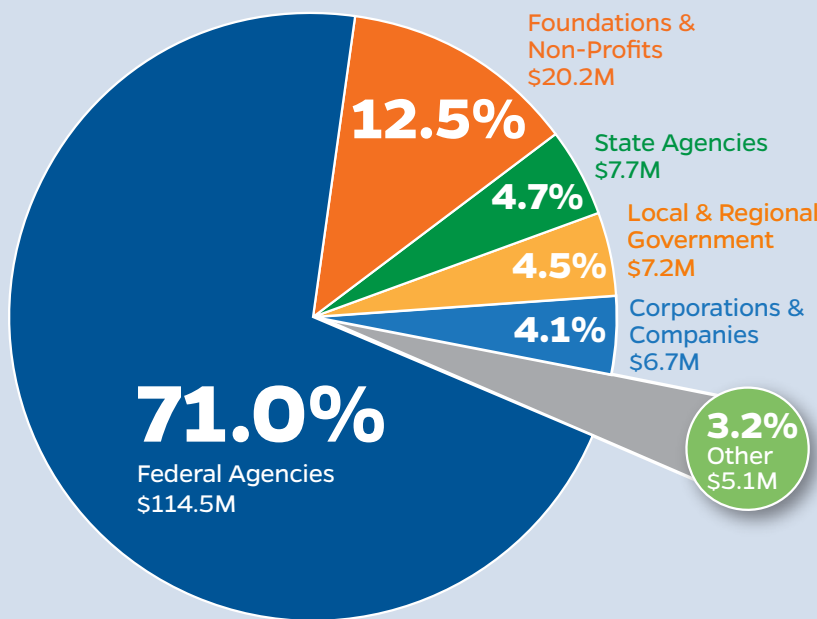
Greatest accomplishment: Conducted the first comprehensive studies on the host-feeding patterns of mosquitos in the Southeast, forming the basis for effective mosquito control.

Everglades Research and Education Center (EREC)

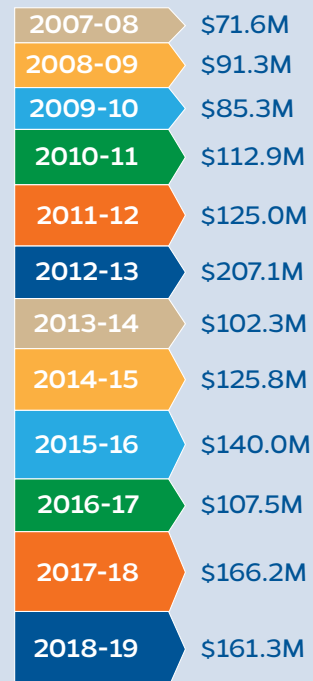
The Everglades Research and Education Center near Belle Glade has a 98-year history at the forefront of agricultural and environmental issues. EREC is home to the Everglades Soil Testing Laboratory, established to address plant nutrient deficiency problems that were repeatedly observed in vegetable production. Today, the work of EREC scientists has expanded into research in agronomy, crop breeding and improvement, entomology and nematology, plant pathology, soil and water sciences and weed science.

Greatest accomplishment: National and international recognition for research on sugarcane for bioenergy purposes.

.....
AWARDS TOTALING \$161.3 MILLION (M) IN FY 2018-19



.....
GROWTH IN FUNDING DOLLARS



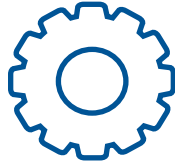


J. WAYNE REITZ UNION



UF/IFAS SCHOOLS AND DEPARTMENTS

Agricultural and Biological Engineering



The Department of Agricultural and Biological Engineering is founded on developing, teaching and applying engineering principles to improve and sustain agricultural and biological systems for current and future generations. Programmatic expertise on these complex systems ranges from nano- to global scales, integrating anthropogenic and sociological aspects to natural and managed systems. The UF/IFAS ABE department continually transcends disciplinary boundaries to create synergy among different knowledge areas for designing, quantifying, assessing and managing engineering solutions for natural and managed systems.

UF/IFAS ABE is ranked among the top programs in the nation and provides unique opportunities for in-depth research and field experience with award-winning department faculty. Our department offers graduate and undergraduate programs in both the UF Herbert Wertheim College of Engineering and the UF/IFAS College of Agricultural and Life Sciences.

Point of pride: Developed the Decision Support System for Agrotechnology Transfer crop model that identifies management practices for maximum productivity and is currently used worldwide to manage 42 distinct crops.

Agricultural Education and Communication



The Department of Agricultural Education and Communication develops leaders, educators and communicators to meet the challenges society faces in the agricultural and natural resources-based industries. The mission of the department is to serve society by advancing individuals and organizations in agriculture and natural resources through research- and evidence-based practice in education, communication and leadership.

The department offers programs for both undergraduate and graduate degrees in agricultural education and communication, with specializations involving agricultural communication, agricultural education, Extension education and leadership development.

Point of pride: Developed the Critical Thinking Inventory (UFCTI) in the early 2000s, an assessment that measures critical thinking style on a continuum. In recent years, the reliability and validity of the UFCTI has improved by performing statistical analyses using data from thousands of individuals.

Agronomy



The Agronomy Department's mission is to achieve excellence in the science of using plants for food, feed, fuel, fiber and groundcover, as well as in the management of weed species, through teaching, research and outreach programs that serve the people of Florida, our nation and the world. Focused research areas include weed science, plant physiology, nutrition and management, plant breeding and genetics and genomics. Weed scientists in the department have developed, evaluated and implemented weed management strategies for terrestrial and aquatic weeds in temperate, sub-tropical and tropical environments. Strong interdisciplinary teamwork, both within and across departments and at regional and national levels, is a tradition in the program.

Point of pride: Developed and released "Florunner" peanut in 1969. Florunner offered a significant yield advantage over other cultivars and was the foundation of future elite peanut cultivar releases.

Animal Sciences



The Department of Animal Sciences is focused on creating new solutions for tomorrow's problems. More than 40 faculty members support teaching, research and Extension activities in areas including nutrition, reproduction, molecular biology and physiology, genetics, meat science, and management related to dairy and beef cattle, horses, goats and swine. Investigators make use of state-of-the-art lab facilities; beef, dairy and equine research and teaching units; a meat processing facility; and Extension units statewide.

Point of pride: Characterized and overcame mineral deficiencies in livestock species. In the 1940s, George K. Davis' research findings saved the Florida beef cattle industry, and he was the first scientist from UF elected to the National Academy of Sciences.

Entomology and Nematology



Through teaching, basic and applied research and Extension, the Entomology and Nematology Department finds ways to manage insect and nematode pests, which cause significant losses to agricultural and horticultural crops and are important vectors of pathogens that cause diseases in plants, livestock and humans. Faculty in the department also study urban pests, which can affect quality of life and cause significant property losses. However, many insects are beneficial to ecosystems and human life, providing important services through decomposition, through pollination of fruits and vegetables and as natural enemies of pest species. Thus, the department also develops novel approaches to pest management that are sustainable and that minimize negative environmental impacts.

Point of pride: Ranked the No. 1 entomology program in the world by the Center for World University Rankings, in 2017.

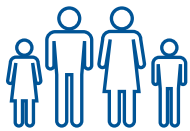
Environmental Horticulture



The Environmental Horticulture Department's mission is to advance the science of breeding, growing, installing and maintaining plants to enhance the human and natural environment. Breeders in the department focus on genetic improvement of several major ornamentals, releasing 85 new plant varieties during the past decade. Many varieties have been licensed for large-scale commercial production. Faculty in the department also develop environmentally sound recommendations for the landscaping and turfgrass industries. The department's diverse and engaging teaching faculty inspire a love of plants in students, who go on to careers in a range of fields.

Point of pride: Developed the coleus breeding program that has produced more than 60 cultivars, 19 U.S. plant patents and 13 U.S. registered trademarks. More than 25 million UF/IFAS-developed coleus plants have been sold on four continents.

Family, Youth and Community Sciences

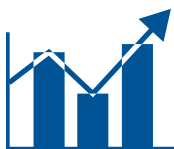


The mission of the Department of Family, Youth and Community Sciences is to enhance lifelong learning and the personal, social,

economic and environmental well-being of diverse individuals, families and communities through state-of-the-art teaching, research and Extension programs. The FYCS major is an applied social science program that provides education and experience for careers in human services, community development, cooperative Extension and youth professions. Students develop in-depth knowledge in individual and family development and in functioning in both community and societal contexts. Students learn intervention skills such as interpersonal communication; program planning, management and administration; social policy; applied research and evaluation; and community-based education.

Point of pride: Originally a UF/IFAS Extension unit, the department established an undergraduate teaching program in 1994, a master's program in 2000, and a doctoral program in 2016.

Food and Resource Economics



Faculty in the Food and Resource Economics Department study the role of agricultural and natural resources commodities and labor in state, national and international

economies. The department's faculty study and teach marketing and consumer behavior, natural resources and environmental policy, international trade, regional economic impacts, marine economics, water economics and production and farm management. The department's Economic Impact Analysis Program plays a critical role in regional economic modeling, economic impact analysis and economic contribution studies for stakeholders in Florida's agricultural and natural resources-based industries.

Point of pride: Developed an online economic impact assessment tool for rapid reporting of disaster-related impact on state agricultural and natural resources-based industries.

Food Science and Human Nutrition



The Food Science and Human Nutrition Department is one of the world's largest combined academic programs where food science,

nutritional sciences and dietetics are all studied within one department. FSHN has nearly 25 full-time faculty members, 80 graduate assistants and 600 undergraduate students. Our programs are accredited by the Institute of Food Technologists and the Academy of Nutrition and Dietetics. FSHN occupies four buildings centrally located on UF main campus, and several research laboratories at the UF/IFAS Citrus REC in Lake Alfred.

Point of pride: Established the folic acid requirement during pregnancy that led to the establishment of food fortification procedures worldwide to prevent birth defects.

Horticultural Sciences

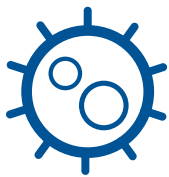


The Horticultural Sciences Department is a team of faculty, staff and students dedicated to improving fruit and vegetable production for the benefit of

farmers and consumers. Faculty conduct cutting-edge research in plant breeding and genetics, plant and environmental physiology, fruit and vegetable production, postharvest physiology, biochemistry and other disciplines. The department offers high-quality education and training for undergraduate and graduate students to equip them with the skills needed to be successful in satisfying, high-paying careers. With diverse faculty located throughout the state, the department integrates its teaching, research and Extension programs to provide practical experience for our students, technical support for our farmers, relevance for our horticulture industry, and a pipeline to bring relevant research findings to growers.

Point of pride: Helped establish the Florida blueberry industry by developing the first southern highbush blueberry plants grown commercially in the Sunshine State. Now, the Florida blueberry industry brings growers about \$60 million annually.

Microbiology and Cell Science



With an enrollment of approximately 1,000 undergraduate majors, the Department of Microbiology and Cell Science is one of the largest

undergraduate science programs at the University of Florida and one of the largest microbiology programs in the country. There are more than 50 students in our graduate program, with the majority of them pursuing the Ph.D. degree. All full-time students in our graduate program are supported by assistantships or fellowships. Academic staff includes 25 tenure-eligible faculty positions staffed, four non-tenure-eligible faculty, 17 post-doctoral fellows, more than 50 graduate students, more than 20 office and technical staff and two full-time academic advisors.

Point of pride: Genetically engineered *E. coli* bacteria to produce biofuels and chemicals using farm and forest waste.

Plant Pathology



The Plant Pathology Department, founded in 1952, has 14 Gainesville-based faculty, 23 faculty located at research and education centers in nine locations serving sub-tropical

to temperate agroecosystems, and 14 adjunct, courtesy and/or affiliate faculty. The department is host to the plant medicine program, which offers the Doctor of Plant Medicine degree. Statewide faculty have been heavily involved in programs to deal with outbreaks of recently arrived disease threats such as soybean rust, sudden oak death and citrus greening. Department faculty also identified bacterial spot-resistant genes in tomato and pepper that impacted basic biology and disease-management practices.

Point of pride: Is the lead institution for the Southern Plant Diagnostic Network, one of five regional branches of the National Plant Diagnostic Network.

School of Forest Resources and Conservation



Since its founding in 1937, the School of Forest Resources and Conservation has been developing new knowledge and educating students and citizens about the sustainable management

and conservation of natural resources. SFRC emphasizes integrative, interdisciplinary approaches spanning three main programs: (1) Fisheries and Aquatic Sciences, emphasizing sustainable fisheries, aquaculture and aquatic ecology and health; (2) Forest Resources and Conservation, including the biology, ecology, economics, policy and human dimensions associated with sustainable management and conservation of forests; and (3) Geomatics, specializing in modern geospatial sciences such as surveying, mapping, remote sensing, satellite imagery, GIS and GPS.

Point of pride: The Austin Cary Forest is a 2,080-acre teaching and research forest northeast of the Gainesville campus. The forest provides a living laboratory to put into practice the theories and principles of its academic subjects, such as protection, silviculture, mensuration, management and economics.

School of Natural Resources and Environment



The School of Natural Resources and Environment offers campus-wide, interdisciplinary degree programs at both the undergraduate and graduate levels. The school operates

horizontally across UF's structure of academic disciplines. The school has two dually appointed faculty positions, which are shared with other schools. However, the bulk of participating faculty are in existing discipline-centered departments in other colleges. Approximately 334 members of the University of Florida faculty in 56 departments of 12 colleges are formally affiliated with SNRE.

Point of Pride: Tom Frazer, SNRE director, was appointed Florida's first chief science officer by Gov. Ron DeSantis in 2019.

Soil and Water Sciences



The Department of Soil and Water Sciences provides highly visible leadership in teaching, research and Extension programs related to improving the productivity of agriculture with environmentally sound management practices, improving water quality and protecting and conserving natural resources. The department is one of the few in the nation to offer comprehensive programs (molecular to landscape level) involving terrestrial, wetlands and aquatic ecosystems. To meet new challenges and explore new opportunities, the DSWS's teaching, research and Extension programs are focused within the contexts of sustainability, water quality, carbon sequestration, greenhouse gases and climate change.

Point of pride: Developed cutting-edge science and management tools to protect water quality and influence policy. This included remediation methods for contaminated soil and water and establishment of Best Management Practices for urban and agricultural systems.

Wildlife Ecology and Conservation



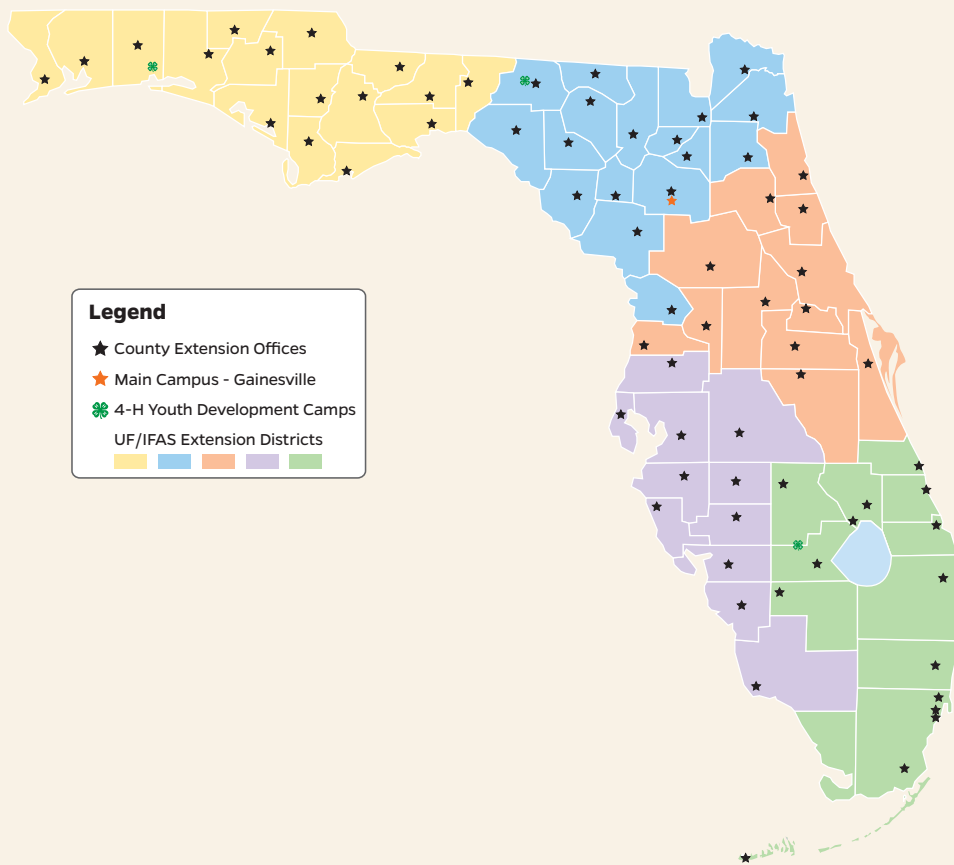
The mission of the Department of Wildlife Ecology and Conservation is to foster education, expand knowledge and reward scholarship using multi-disciplinary approaches for the purpose of understanding, managing and conserving biological resources. The primary goal of WEC programs is to develop and communicate the knowledge necessary for enhancing the conservation and management of wildlife and their habitats for the greatest aesthetic, ecological, economic and recreational values. The department is at the forefront of increasing understanding and knowledge of the ecology, conservation and management of wildlife and their habitats through undergraduate, graduate and continued teaching, research and Extension efforts.

Point of pride: Populated leadership positions in international conservation agencies and organizations that include directors of the national agricultural and wildlife agencies in Mexico, Uganda and Belize.





UF/IFAS EXTENSION LOCATIONS



- Legend**
- ★ County Extension Offices
 - ★ Main Campus - Gainesville
 - ☘ 4-H Youth Development Camps
- UF/IFAS Extension Districts
- Yellow
 - Blue
 - Orange
 - Purple
 - Green



UF/IFAS EXTENSION

UF/IFAS Extension is the helpful neighbor in your local community.

Across the state of Florida, UF/IFAS Extension faculty deliver educational programs in agriculture, natural resources, healthy living, gardening, sustainability, family resources and youth development that respond to the unique needs of their community.

Extension is that helpful neighbor, always ready to lend a hand or solve a problem.

From the Florida Keys to Pensacola, UF/IFAS Extension programs are all based on the latest science developed by University of Florida researchers, faculty, scientists and staff. With physical offices in each of Florida's 67 counties, UF/IFAS Extension faculty bring the knowledge of the University of Florida to the state's 21.7 million residents and share their communities' needs with campus researchers.

Extension Family Nutrition Program faculty work in urban neighborhoods to teach better nutrition and healthy living where access to adequate and nutritious food is a challenge. Horticultural agents work to increase property values and enhance the quality of life with gardening programs. Family and Consumer Sciences faculty partner with local health professionals to provide life-saving education on high blood pressure, diabetes and other chronic diseases. Agricultural faculty help farmers make their operations more profitable and sustainable, while natural resources faculty work with communities to conserve water, forests, wildlife and more for future generations. Youth development faculty help grow the leaders of tomorrow through hands-on learning.

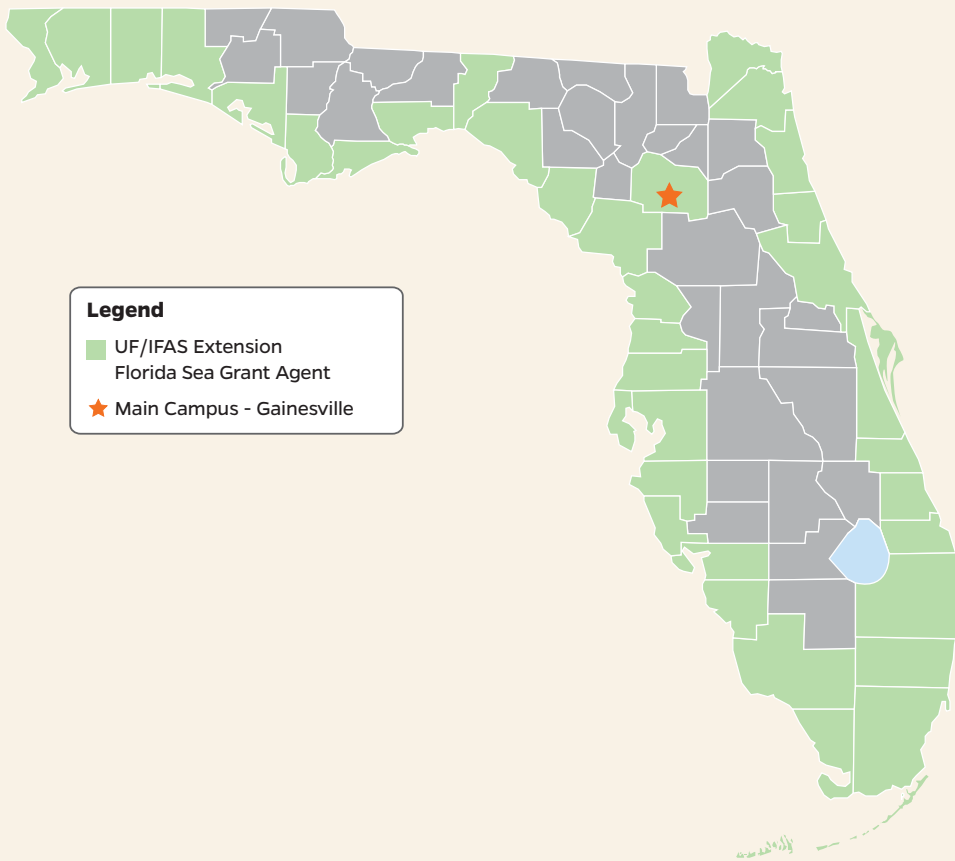
UF/IFAS Extension encompasses thousands of Extension faculty members, scientists, educators, administrative staff and volunteers, all working to provide solutions for your life. The program exists as an active partnership with Florida county governments, which provide facilities and some financial support to operate Extension programs tailored to their local needs.



Learn more about UF/IFAS Extension here:
<https://tinyurl.com/IFAS-Extension-Govt>



FLORIDA SEA GRANT LOCATIONS



- Legend**
- UF/IFAS Extension
 - Florida Sea Grant Agent
 - ★ Main Campus - Gainesville



UF/IFAS & FLORIDA SEA GRANT

Supported by UF/IFAS, Florida Sea Grant is one of 33 university-based programs that form the National Sea Grant College Program, a partnership between state university systems and the National Oceanic and Atmospheric Administration. Like its counterparts in other coastal states, Florida Sea Grant supports specialized academic and Extension faculty positions that advance UF/IFAS' broad missions. It funds competitive research and supports graduate student education at 16 Florida universities and research labs. Furthermore, Florida Sea Grant conducts UF/IFAS Extension programs concerning marine fisheries, aquaculture, healthy coastal habitats and disaster resilience for coastal communities. Issues of special concern to the program include harmful algal blooms, sustainable fisheries and sea-level rise.

For more information, please visit flseagrants.org.

SUCCESS STORY

When Hurricane Irma struck the Florida Keys in September 2017, storm surge scattered more than 150,000 submerged spiny lobster traps. Florida Sea Grant helped lobstermen get back to business by contributing funds to hire spotter planes equipped with cameras and GPS systems, to locate traps below the water's surface. The rapid response led to recovery of 60,000 traps and saved the industry nearly \$4 million in expenses and lost fishing income.



Learn more about Florida Sea Grant here:
<https://tinyurl.com/FL-SeaGrantVideo>



International Activities

Photo by Sarah McKune, UF

In an era when people are more connected than ever, UF/IFAS is working to address challenges confronting the world's food supplies, natural resources and environments.

Our faculty and students can be found across the world — studying a virus that infects spiny lobster in the Caribbean Sea, working to diagnose the disease plaguing Haiti's plantain and banana crops, improving food safety practices in Ethiopia and helping African farmers combat fall armyworm, an insect pest compromising the continent's maize production.

UF/IFAS faculty lead collaborations in about 40 countries, supported by more than 100 cooperative agreements. We are also home to more visiting scholars and international students than any other UF unit, with 724 international

students enrolled in the UF/IFAS College of Agricultural and Life Sciences as of fall semester 2019.

By leveraging its experience, expertise and connections, UF/IFAS conducts activities ranging from our large-scale Feed the Future Innovation Lab for Livestock Systems in eight countries across Africa and Asia, to small single-investigator projects, such as a partnership with a Madagascar university and the Madagascar National Parks organization to support local capacity in biodiversity conservation priority areas.

The Feed the Future Innovation Lab is supported by:





Technology Transfer

Since 1985, UF Innovate | Tech Licensing has managed the University of Florida's intellectual property and helped UF build an impressive record for commercializing discoveries and inventions developed on campus. Throughout its existence, the Tech Licensing program has helped launch more than 200 startup companies, generating more than \$1 billion in private investment.

For UF/IFAS personnel, Tech Licensing is a valuable ally in their efforts to bring scientific advances to the marketplace, a process known as technology transfer. The process starts when a UF/IFAS employee develops a new technology during the normal course of business. When the employee contacts Tech Licensing to formally

announce the technology, licensing officers can help the employee complete required paperwork, file patent applications and make market assessments to gauge the technology's commercial potential. When appropriate, the officers assist UF/IFAS employees in evaluating business opportunities relevant to their discoveries.

The most successful technology associated with UF/IFAS is the Sentricon® subterranean termite colony elimination system, developed by UF/IFAS entomologist Nan-Yao Su and colleagues with Dow Agrosciences. Since reaching the market in 1995, Sentricon® has generated more than \$53 million in royalties for UF, making it the third most valuable technology developed at UF.

UF/IFAS Funding



The FY 2018-19 budget for UF/IFAS totals \$418 million.

This funding supports faculty and staff salaries, new construction, facilities operations and maintenance, temporary personnel, equipment and supplies, Extension activities and many other expenses.

Although UF is a public university, funding for UF/IFAS comes from numerous public and private sources, including federal and state agencies, state appropriations, county governments, grants and contracts, proceeds from the Florida Lottery and gifts.

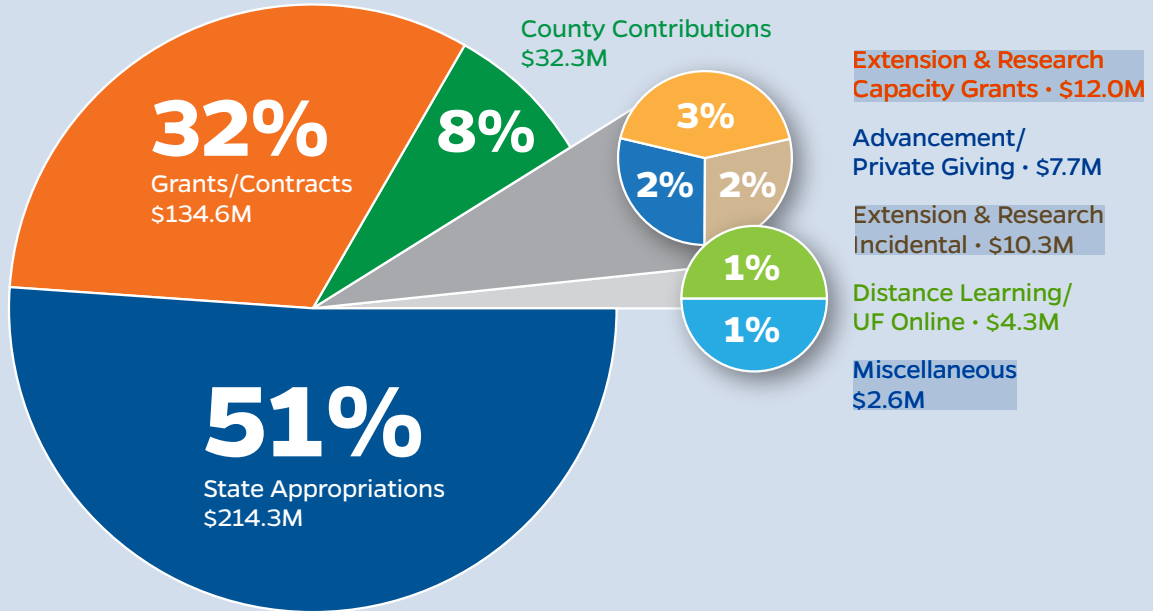
State funding, allocated by the Florida Legislature, provides about half the funding needed for the UF/IFAS annual budget and includes proceeds from student tuition. Some of the monies are earmarked for specific purposes, such as construction projects or new faculty hires, but most support our ongoing teaching, research and Extension missions.

Grants and contracts are the second-largest source of funding and accounted for about \$134.6 million of expenditures in FY 2018-19. Grants are secured by individual faculty members or teams of faculty and are funded by various public and private entities, including the National Science Foundation and the U.S. Department of Agriculture. Contracts often come from industry or non-profit organizations and support specific research studies requested by the funding sources.

We are proud to partner with Florida county governments, which provide more than \$30 million in funding each year, primarily for support of UF/IFAS Extension county offices. This arrangement helps keep UF/IFAS Extension operating in all 67 Florida counties, benefiting citizens across the entire state.

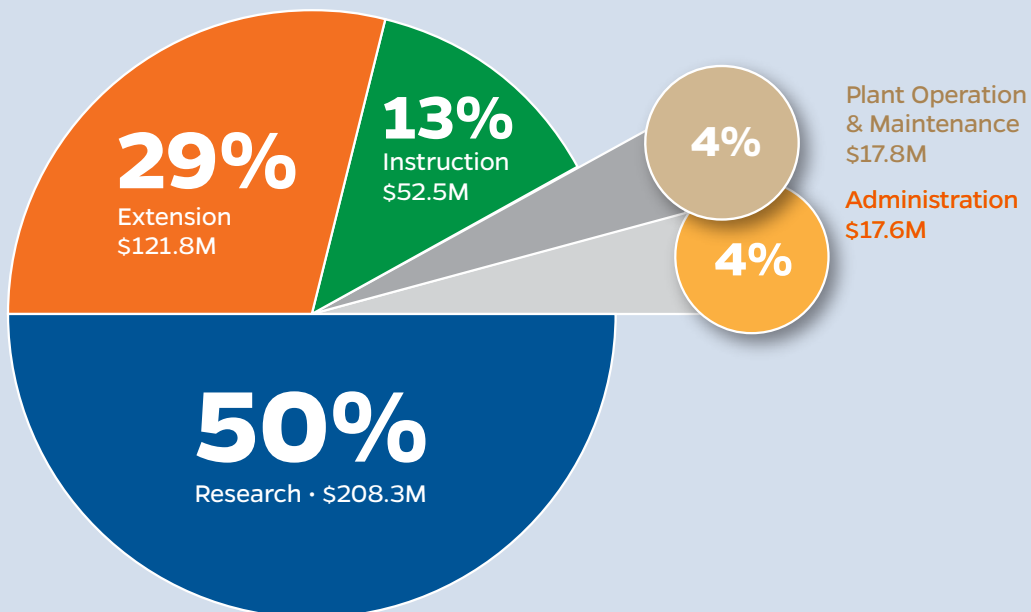
UF/IFAS FY 2018-19 EXPENDITURES BY REVENUE SOURCE

\$418.0 million (M)



UF/IFAS FY 2018-19 EXPENDITURES BY CATEGORY

\$418.0 million (M)





UF/IFAS Centers & Institutes

Some scientific challenges are too large and complex to be addressed effectively by one person.

These challenges require teams of experts who work together to seek solutions.

To foster such collaborations within a single discipline or across multiple disciplines, UF encourages the formation of specialized units known as centers and institutes.

Centers are college-wide or university-wide units that provide services to a particular population; they are often based in a single academic department.

Institutes provide services to a more broadly defined population and involve two or more academic units; for this reason, institutes are likely to involve larger numbers of faculty than centers do.

The centers and institutes within UF/IFAS afford our faculty and our collaborators new opportunities to assess issues from all angles and develop practical solutions built on consensus.

UNIVERSITY-WIDE INSTITUTES LED BY UF/IFAS

Florida Climate Institute

UF Water Institute

INSTITUTE SERVING UF/IFAS

UF/IFAS Institute for Sustainable Food Systems

CENTERS SERVING UF/IFAS

Center for Agricultural and Natural Resource Law
Center for Aquatic and Invasive Plants
Center for Arthropod Management Technologies
Center for Land Use Efficiency
Center for Nutritional Sciences
Center for Public Issues Education in Agriculture and Natural Resources

Center for Remote Sensing
Center for Stress Resilient Agriculture
Center for Sustainable and Organic Food Systems
Florida Center for Renewable Chemicals and Fuels
One Health Center of Excellence
The UF/IFAS Plant Innovation Center
UF Marine Laboratory at Seahorse Key

The UF College of Veterinary Medicine was

No. 9

among veterinary colleges in U.S. News & World Report magazine's 2020 rankings of graduate programs.

In 2017, UF/IFAS researchers were awarded a

\$15 million

USDA/NIFA grant to study *B. carinata* as a cover crop, forage and biofuel source.

834,430

Floridians received nutrition education from the UF/IFAS Extension Family Nutrition Program in 2018.

Popularized by UF/IFAS Extension, 'Pensacola' bahiagrass is Florida's most widely grown cattle forage, accounting for about

70%

of pasture acreage statewide.

Today, more than

90%

of Florida beef cattle possess some Brahman genetics, the result of UF/IFAS research on heat tolerance.

Each year, UF/IFAS pesticide training leads to licensing that generates an estimated

\$66 million

in business activity.

Since 2006, UF/IFAS has released

9 varieties

of citrus rootstock, with more on the way to help growers cope with citrus greening disease.

Since 2006, more than

60,000

green industry professionals have received GI-BMP training, valued at over

\$9 million.

Facilities



UF/IFAS Statewide Facilities Bolster Our Presence.

The extent of the UF/IFAS presence in Gainesville is impressive — on UF’s main campus, we occupy 100 acres and 370 buildings that represent about 1.15 million gross square feet of space.

But where UF/IFAS facilities are concerned, UF’s main campus is only the beginning.

Statewide, UF/IFAS occupies 25,735 acres and has 1,298 buildings with 3,986,332 gross square feet of space.

In other words, UF/IFAS facilities sited beyond the UF main campus represent 71.1% of all UF/IFAS building space — 2.84 million square feet of it, contained in 928 buildings that span 31 sites from Escambia County to Monroe County at the other end of the state, 800 miles away by car.

Notable UF/IFAS Facilities

Twelve UF/IFAS research and education centers (RECs) operate statewide, providing a base for

teaching, research and Extension activities, with special emphasis on local producers’ needs. However, due to their size and scope, the RECs also address issues that will be of interest beyond their immediate operating area.

Five UF/IFAS research and demonstration sites supplement the RECs by addressing specific, localized needs. The latest addition is the Nature Coast Biological Station (NCBS), a hurricane-proofed three-story structure poised on the edge of the Gulf of Mexico in the ancient fishing village of Cedar Key, in western Levy County. The NCBS facility was begun in 2015, officially opened in 2017 and is still undergoing final construction. Personnel at NCBS also manage UF Marine Laboratory at Seahorse Key, three miles offshore from “mainland” Cedar Key.

Three 4-H camps dot the state: In the west, Camp Timpoochee in Okaloosa County borders a sheltered bay; Camp Cherry Lake in Madison County is located near the Georgia border, about equidistant from Tallahassee and Jacksonville; Camp Cloverleaf is the most southerly of the

trio, located in Highlands County west of Lake Okeechobee.

Seven UF/IFAS off-campus facilities hold special significance for the state's livestock owners and producers. For ranchers, the Range Cattle REC in Hardee County has been serving cow-calf operations since 1941 and possesses the greatest acreage of any UF/IFAS REC facility — more than 2,800 acres, most of it minimally improved rangeland. There are also three beef research units in Alachua County, totaling more than 2,100 acres. Equine industries benefit from the UF/IFAS Horse Teaching Unit south of Gainesville and the much larger Equine Sciences Center in neighboring Marion County. Lastly, the UF/IFAS Dairy Research Unit in northwest Alachua County is an 850-acre working dairy farm and hosts teaching, research and Extension activities.

For UF/IFAS academic faculty stationed at the main campus in Gainesville, there are extensive opportunities for conducting outdoor field research on food crops, ornamentals, forages, ground covers, trees, bioenergy crops and a host of management tactics at the 1,100-acre Plant Science Research and Education Unit (PSREU) in Citra, 25 minutes south of Gainesville.

PSREU also houses the UF/IFAS Heavy Equipment Program, which delivers requested construction vehicles and operators to UF/IFAS and UF facilities impacted by hurricanes or other disasters.

Looking Ahead

Despite tight budgeting, in recent years UF/IFAS has secured funding for several important new building initiatives from the Florida Legislature and private donors, with advocacy from industry groups.

For example, summer 2018 saw the completion and grand opening of the UF/IFAS Honey Bee Research and Extension Laboratory, a three-building complex on UF main campus grounds that was funded with help from the Florida State Beekeepers Association. Similarly, the Florida Cattlemen's Association helped secure funding to build new classrooms and dormitories at the UF/IFAS Beef Teaching Unit at Sand Hill, south of the UF main campus. Supporters of the UF/IFAS Southwest Florida REC in Collier County obtained funding for expansions that added 7,000 square feet of building space to the 320-acre operation.

In the immediate future, private support will be especially important to construction projects at all UF/IFAS locations, due to diminished availability of funding from other sources.

Altogether, UF/IFAS had
3.99 million
gross square feet of building
space in 2018.

From 2008 to 2018,
UF/IFAS building space increased

700,000
gross square feet.

Despite facilities expansion, in
FY 2017-18, UF/IFAS spent about

\$1 million less
on utilities than it had in FY
2007-08, thanks to conservation
and efficiency improvements.

- **UF/IFAS Plant Diagnostic Centers** help producers identify pests and pathogens in Gainesville and five other locations statewide.
- The **Center for Aquatic and Invasive Plants**, established by the Florida Legislature in 1978 and administered by UF/IFAS, is currently housed in the UF/IFAS Fisheries and Aquatic Sciences complex, which occupies more than 450 acres.
- At the far southwest corner of the UF main campus lies a 49-acre tract of minimally developed land, the **Natural Area Teaching Laboratory**, used by numerous UF/IFAS classes and UF programs.
- Situated on 837 acres in Polk County, the **UF/IFAS Citrus REC** has led the fight against citrus greening disease since 2005.
- The **Tropical Aquaculture Laboratory** in Hillsborough County boasts a 6.5 acre fish farm on-site.
- Located about 30 miles south of Miami, the **UF/IFAS Tropical REC** in Miami-Dade County is the southernmost permanent outpost for UF/IFAS Research.
- The **UF/IFAS School of Forest Resources and Conservation** has a 2,080-acre teaching and research forest available 15 minutes northeast of campus in Fairbanks.

Relevant and Responsive





Sometimes it's hard just to get through the day.

For Florida's 21.7 million-plus residents, the problem could be battling infectious diseases transmitted by mosquitoes, weather extremes from drought to hurricanes, rural communities losing their identity to urban growth, limited water supply, toxic algal blooms, sea-level rise, forest fires, access to good nutrition and on and on.

At UF/IFAS, we pride ourselves on identifying the most critical issues facing our state and rapidly responding with solutions that are relevant and that truly make a difference. Sometimes those solutions come quickly; sometimes the process is an ever-evolving one.

Faculty work collaboratively across disciplines, departments and divisions. Researchers work with UF/IFAS Extension agents to learn about issues directly from Florida's residents, agricultural producers, natural resources professionals, decision-makers and young people. UF/IFAS Extension specialists and county faculty bring the solutions directly to those most affected in a perpetual cycle of feedback-solution-application. All of this informs teaching faculty and supports providing a curriculum infused with real-world case studies and tested knowledge.

At UF/IFAS we're breaking down traditional academic silos to bring the best thinkers together to find solutions to the world's greatest challenges.



**71% OF THE EARTH'S
SURFACE IS WATER.
WE'RE WORKING TO
CONSERVE**

100%

OF IT



WATER

Water is one of Florida's most valuable natural resources.

It flows throughout the state in more than 10,000 miles of rivers and streams; it lies beneath our feet in the Floridan aquifer, one of the world's most prolific aquifers; it emerges from more than 700 natural springs; it is dotted throughout our landscape in 7,700 large lakes and many more smaller bodies; and it surrounds our peninsula via the Gulf of Mexico and the Atlantic Ocean. This resource is part of Floridians' everyday lives, whether we rely on it for drinking, enjoy it recreationally or participate in one of many water-dependent industries based in the state.

But this resource also faces many challenges. More than 900 people move to Florida every day, placing increased strain on our potable water sources. The quality of our water bodies is further threatened by problems like saltwater intrusion, algal blooms and even microplastics.

UF/IFAS experts are at the forefront of protecting our water resources, tackling these issues and staying ready to study any others that may arise. We advise homeowners and agricultural producers statewide on ways to use water effectively and efficiently through practices such as Florida-Friendly Landscaping™ and utilizing moisture-sensing technologies. We assess the quality of our many diverse bodies of water and develop programs to educate the public on keeping them clean.

Our research in water is ongoing. We have agricultural and biological engineering faculty exploring bio- and nanotechnologies in water resources and designing new solutions for irrigation and drainage systems. We have soil and water sciences experts examining ways to effectively reuse wastewater and studying the restoration of wetlands and lakes.

Our thought leaders are also called upon to guide policies that will affect the future of Florida's water, preserving it for generations of Floridians as well as for our diverse collection of native plants and animals. Our affiliated faculty are represented in areas such as the UF Water Institute, Florida Sea Grant and governmental organizations like the recently formed Blue-Green Algae Task Force and the revived Red Tide Task Force.

For more information, please visit water.ifas.ufl.edu.



Learn more about what UF/IFAS is doing in water here: <https://tinyurl.com/IFAS-Water>



**FEEDING THE
WORLD OF THE**

FUTURE

**IS WHAT WE'RE
WORKING ON TODAY**

FEEDING THE WORLD

No one should go hungry. Yet scarcity of abundant food is a challenge facing people around the world. It may be a food desert in our own community or famine in a country thousands of miles away.

UF/IFAS teachers, researchers and Extension personnel are fighting world hunger in their classrooms, in their labs and in their communities, working to increase the amount of available food, improve access to healthy foods and teach individuals how to sustain a healthy lifestyle.

We develop new fruit and vegetable cultivars that withstand searing heat, torrential rains, pests, drought and other crop stressors. We work with scientists worldwide to ensure sustainable food systems, and our students and faculty are joining forces to figure out how to feed a projected global population of 9.8 billion by 2050.

UF/IFAS plant breeders across the state develop new varieties of citrus, peanuts, corn, blueberries, strawberries, tomatoes and many other crops — foods that people buy at grocery stores or from other vendors. Scientists incorporate genetic traits for taste and higher yields.

The UF/IFAS CALS Field & Fork Campus Food Program works to provide opportunities for collaboration and learning in sustainable agriculture and food systems. At the Field & Fork Farm and Gardens, students grow food in an urban farm production setting; they also provide healthy, fresh food to those in need via the Alan and Cathy Hitchcock Field & Fork Pantry.

At the Feed the Future Innovation Lab for Livestock Systems, a \$50 million-plus global program funded by USAID and the Bill and Melinda Gates Foundation, UF/IFAS researchers work with scientists from across UF and around the world to help feed those starving in Africa and Asia.

Faculty in the UF/IFAS Institute for Sustainable Food Systems work with scientists across the globe to ensure ample food supplies for as many people as possible year after year. Their computer models predict the best places to grow crops in arid areas of the world. Scientists also study ways to maintain the world's supply of wild fish — a mainstay of many diets.

UF/IFAS researchers collaborate with their counterparts worldwide, striving to ensure everyone has the food necessary to sustain their health and the health of their environment.



Learn more about what UF/IFAS is doing in feeding the world here: <https://tinyurl.com/IFAS-Hungry-World>



WE COME BY IT

NATURALLY



ECOSYSTEMS

In Florida, nature is never far away. From our forests, wetlands and coasts to our urban and rural areas, UF/IFAS is working to conserve our precious natural resources for use today and for future generations.

This is about more than protecting Florida’s natural beauty. The state’s ecosystems provide critical services that benefit Florida residents, from supporting local industries and enhancing recreation and tourism to improving the sustainability of man-made environments.

Florida is rich in biodiversity and home to approximately 125 endangered or threatened plant and animal species. Through our research, we’re helping conserve imperiled species and restore ecosystems on which they depend. Wildlife viewing in Florida contributes nearly \$5 billion to Florida’s economy and supports more than 45,000 jobs.

Florida is called the “Fishing Capital of the World.” Recreational and commercial fishing together generate billions of dollars annually for the state. Through our research and Extension programs, we empower those who use and manage our fisheries.

Florida has about 17 million acres of forestland. Forest-related industries contribute \$25 billion in total output to Florida’s economy. In partnership with industry and landowners, we’re helping keep forests healthy through fire science, disease prevention and Best Management Practices.

Most Floridians live in urban areas but they benefit from ecosystem services, too. The UF/IFAS Center for Land Use Efficiency and Environmental Horticulture Department develop landscaping practices that increase the sustainability and health of cities and neighborhoods — which can lead to financial savings.

We are also working on ways to maintain healthy pollinator populations, which are essential to both agriculture and natural environments.

Finally, we raise awareness about ecosystem services through UF/IFAS Extension and citizen science programs. These programs empower residents to change their own behaviors and aid scientific research. The Florida Master Gardener Volunteer and Florida Master Naturalist programs offer residents opportunities to learn more about ecosystem services and educate others.

We do this work through county, state and federal partnerships. We help these agencies by supplying the science that can inform policies.



Learn more about what UF/IFAS is doing in natural resources here: <https://tinyurl.com/IFAS-NatResources>



LIVING

WELL

IN THE
SUNSHINE STATE



HEALTHY LIVING

Health is about more than going to the doctor once a year. Our choices and environments make a big difference when it comes to living well.

Today's population has many health-related challenges to overcome. Nearly 40% of adults in the U.S. are obese, a condition linked to heart disease, stroke, type 2 diabetes and cancer. From debt to unexpected expenses, financial challenges hold people back from providing healthier environments for themselves and their families. Dysfunctional relationships create stress and instability.

Fortunately, researchers are beginning to understand how these various aspects of health are interconnected. UF/IFAS' teaching, research and Extension programs have long worked with this holistic view.

From chronic diseases and nutrition to relationships and financial management to housing and disaster preparedness, our scientists are making meaningful interventions along the whole spectrum of human health. These researchers are housed in many UF/IFAS departments, including family, youth and community sciences; food science and human nutrition; and microbiology and cell science.

Throughout the state, UF/IFAS Extension faculty work to improve the health of their communities. Family and consumer sciences agents design programs that not only teach participants about healthy habits, but also give them the tools to change their own behavior for the better. UF/IFAS Extension faculty funded through the federal Family Nutrition Program and the Expanded Food and Nutrition Education Program provide health and nutrition outreach to limited-resource individuals and families in nearly every county in Florida.

Students in the UF/IFAS CALS Master of Science - Dietetic Internship program learn to apply the science of healthy living as they prepare to become registered dietitians. This degree program opens up career opportunities in fields ranging from health care to the culinary arts.

Together, UF/IFAS programs are making a difference in the health of Floridians, now and in the future.



Learn more about what UF/IFAS is doing in food and nutrition here: <https://tinyurl.com/IFAS-Food>



BUILDING

RESILIENT

COMMUNITIES



COASTAL ISSUES/ SEA-LEVEL RISE

Florida boasts the second-longest coastline in the United States, with the Gulf of Mexico and Atlantic Ocean touching a combined 8,436 miles, according to the National Oceanic and Atmospheric Administration's Office for Coastal Management.

But in addition to the scenic sandy beaches our tourism industry frequently promotes, the state's coastal landscape also features stretches of seagrass, mangroves, salt marshes, dunes, forests and estuaries. These ecosystems are home to a wide variety of native plants and wildlife, including many threatened or endangered species.

The towns and cities that lie along Florida's coast are some of the oldest communities in the state, with long and storied histories of tourism, aquaculture, fisheries and trade. They're also among the most densely populated — more than three-fourths of Florida's 21.7 million residents live in coastal counties, and all Florida residents live within 80 miles of a shore.

Coastal communities are especially vulnerable to the effects of sea-level rise, storm surge and flooding, shoreline erosion, red tide, loss of fisheries and other factors that can severely impact the livelihoods of people who live and work along the coast.

UF/IFAS is dedicated to preserving Florida's coastline and helping coastal communities become more resilient. This was exemplified in our response to the 2010 collapse of the Deepwater Horizon offshore oil rig. A UF/IFAS research team identified the need for a well-coordinated and speedy communication effort following such events. These findings helped several communities form disaster-response teams that improved their resiliency and ability to cope with subsequent disasters, including Hurricane Irma in 2017 and Hurricane Michael in 2018.

Other leaders in coastal-resiliency efforts are our UF/IFAS Extension Florida Sea Grant agents, who live and work within coastal communities. There, they are able to lend their experience and expertise to developing municipal plans for dealing with sea-level rise and storm damage, enhancing aquaculture and fisheries, helping local businesses market ecotourism, promoting safe and sustainable offshore recreation, and conserving the beauty and viability of coastal ecosystems.



**WE HELP
INCREDIBLE THINGS**

GROW

**LIKE FLORIDA'S
ECONOMY**



PLANT BREEDING

Ever wonder how that new tomato reached your local grocery store? Or where an exotic-looking coleus that was introduced for the new season was developed? Or why you can expect delicious strawberries in February and blueberries in April?

Most likely the answer will lead you to the University of Florida.

UF/IFAS plant breeders have developed hundreds of new varieties of fruits, vegetables, forages, sugarcane, landscape plants, even turfgrasses, that provide hardier, tastier, longer-lasting and more widely available products to consumers around the world. UF/IFAS granted some 974 licenses for new plant varieties between 2013 and 2018.

The UF/IFAS plant breeding legacy includes building the \$60 million-a-year early-season blueberry market for Florida producers, the first successful artificial hybridization of a peanut variety, some of the best-selling and tastiest strawberries and turfgrass that may not need to be mowed as often as current varieties.

At present, about 90% of Florida's commercial strawberry acreage and 95% of its blueberry acreage are planted in UF/IFAS varieties. These industries continue to flourish with the support of new variety releases from the plant breeding programs and the innovation of our breeders.

One of the most important ways that the UF/IFAS plant breeding program accomplishes its mission is by investing in plant breeding graduate education programs that equip students with knowledge and experience in the latest molecular techniques, experimental design, statistical analysis methods and applied field breeding practices.

While UF/IFAS scientists strive to improve consumer appeal of oranges, strawberries, tomatoes, corn, blueberries and other crops, they also help farmers reduce risks. Farming involves many perils — rain, drought, heat and pests among them. UF/IFAS researchers work in labs and fields across the state, trying to develop new plant varieties that thrive despite these obstacles.

Among the varieties developed by UF/IFAS breeders: Sugar Belle® (a mandarin hybrid), Tasti-Lee® (tomato), Florida Brilliance (strawberry), Emerald and Kestrel™ (blueberries) and more. Consumers look for some of these UF/IFAS-developed fruits by name at their grocery stores.

UF/IFAS faculty also breed ornamental plants. Coleus, gerbera and lantana are among the most popular to beautify your home. With trees dotting most of Florida's landscape, it makes sense that UF/IFAS scientists are always looking for the best traits for trees to flourish.

More than 30 scientists and their teams collectively position UF/IFAS as a leader in plant breeding that impacts the world's food and plant supply.



SOME

SUPERHEROES

WEAR LAB COATS



INVASIVE SPECIES

Florida has long been known as a hub for international trade and travel.

These activities benefit the state in many ways, but the constant flow of international products and visitors has introduced thousands of non-native animals, plants, fungi and microbes to Florida. Some of these organisms stowed away on planes and ships, others were brought deliberately.

A few of these newcomers prove to be so well-suited to Florida's environmental conditions that if they escape confinement they'll spread rapidly and might become permanently established. Organisms this environmentally disruptive are called invasive species; they impact Florida's agricultural production, public health and quality of life.

UF/IFAS scientists have long battled these threats. The first off-campus UF/IFAS research facility was founded in 1917, partly to battle the invasive bacterial disease citrus canker. During the mid-20th century, UF/IFAS entomologists helped establish municipal mosquito-control programs and eradicate New World screw worm fly from Florida to protect beef cattle.

Today, invasive species threatening Florida can be as big as a Burmese python or as small as the bacterium that causes citrus greening disease. They might be flying insects (love bugs), terrestrial plants (melaleuca trees), aquatic plants (hydrilla), amphibians (Cuban tree frogs), marine vertebrates (lionfish) or marine invertebrates (green mussels). New threats emerge each year.

In recent decades, UF/IFAS' world-class entomology and nematology department has built an impressive record for managing invasive species with biocontrol — natural enemies of the target species. Three types of mole cricket and the thorny tropical soda apple plant are now managed with organisms UF/IFAS helped evaluate. Biocontrol efforts for Brazilian peppertree in southeast Florida launch this fall.

As Florida moves into the 21st century, UF/IFAS scientists are prepared to meet future invasive threats, whatever they may be. They conduct monitoring efforts that provide crucial "early warning" of newly arrived pests. They explore methods of protecting crops from pathogens transmitted by feeding insects. They consult reports of invasive activity in nearby states and nations to better understand what tomorrow may bring.

Florida's producers and residents may never be entirely freed from concerns about invasive pests, but UF/IFAS aims to come as close as science and nature will allow.



ALL IN FOR

CITRUS



CITRUS

When people think of Florida, three things often come to mind: sun, alligators and fresh-squeezed orange juice.

Citrus defines our state. So when nearly every citrus grove in Florida is threatened by the devastating citrus greening disease, we put all of our effort into fighting back. Because it's not just our state's identity at stake — it's an \$8.6 billion industry employing more than 45,000 people in the state and supporting numerous communities.

So we're exhausting every possible solution, from leveraging CRISPR technology to develop greening-tolerant trees to improving nutrition and irrigation practices that maintain the viability of greening-affected groves.

At the UF/IFAS Citrus Research and Education Center in Lake Alfred, 250 faculty, graduate students and staff work in 40 laboratories, 20 greenhouses and 500-plus acres of groves to meet the developmental needs of the citrus industry through teaching, research and Extension programs. Integrated teams of faculty in soil and water sciences, entomology and nematology, plant pathology, microbiology and cell science, horticultural sciences, food science, food and resource economics and agricultural and biological engineering work collaboratively, finding solutions to citrus diseases and finding methods to increase grove productivity.

With a rich legacy of discovery and innovation that includes contributing to the development of frozen concentrated orange juice and helping Florida lead the nation in production of juicing oranges, UF/IFAS scientists are now advancing new citrus varieties that stand up to greening disease, and integrated grove management recommendations informed by irrigation and nutrition best practices.

To read more about our fight against citrus greening and other citrus diseases, visit citrusresearch.ifas.ufl.edu.



CREATIVITY

GROWS

HERE



YOUTH DEVELOPMENT

If you've ever wondered how the next generation will handle the challenges of tomorrow, look no further than the nation's premier youth development program, 4-H.

The Florida 4-H Youth Development Program is part of the land-grant university system in every state, serving youth ages 5 through 18. In Florida, 4-H is delivered through UF/IFAS Extension in all 67 counties. Its mission is to help youth grow and learn by doing. This approach has been fostering self-confidence, curiosity, generosity and initiative for more than a century.

4-H members report better grades, higher levels of academic competence and an elevated level of engagement at school. Compared with peers who are not involved in 4-H, they are nearly two times more likely to plan to go to college, and they are more likely to pursue studies leading to a career in science, engineering or computer technology.

Originally established as a way to introduce new agricultural technology and practices to farming families, 4-H has evolved beyond its agricultural roots. Today, youth can get involved in a range of project areas, including STEAM (science, technology, engineering, arts and math), community service, healthy living and leadership. Whichever track they choose, 4-H members develop critical life skills and workforce readiness they'll need to succeed as adults. These early experiences can also shape members' career aspirations and goals — many prominent leaders and innovators are 4-H alumni.

In Florida, the 4-H program served 198,032 youth in 2018 through local 4-H clubs, school enrichment, 4-H camping and child-care programs. This impact is made possible by more than 10,000 adult and youth volunteers statewide who are trained by UF/IFAS Extension 4-H faculty to deliver 4-H programs at the county level. These volunteers fulfill another critical element of the 4-H program: to provide youth with caring role models and mentors.

Youth also have the opportunity to participate in the program at the state and national levels. Through 4-H Legislature, youth participate in a multi-day mock legislative session in the Florida State Capitol building in Tallahassee. At 4-H University, members spend a week on the University of Florida's main campus, where they explore opportunities in the UF/IFAS College of Agricultural and Life Sciences and get a taste of college life. Through Citizenship Washington Focus, members travel to Washington, D.C., to learn about leadership and citizenship with peers from across the country.

To learn more about Florida 4-H, visit florida4h.org.



SERVING

ONE

FLORIDA



COMMUNITY DEVELOPMENT

Florida grows by 900-plus residents every single day and is home to two of the top 10 fastest-growing counties in the United States.

Intense growth comes with challenges that we must be equipped to address. The landscape of Florida has changed dramatically and UF/IFAS is here to support Florida residents wherever they choose to live and thrive.

Long gone are the days of empty stretches of highway and farmland as far as the eye can see. Strawberry fields are now surrounded by gated neighborhoods and bus stops, once rolling hills of orange groves are now home to retail and business centers and our highways are busier than ever.

The lines between our urban and rural communities have blurred. Our communities' needs are the same regardless of their location, and UF/IFAS is equipped to support them through the delivery of science-based knowledge that will improve the way they live, work and play. With Extension offices in all 67 counties across Florida, UF/IFAS is committed to serving all residents, rural and urban.

While UF/IFAS' history is rooted in agriculture, our support extends to bridge the gap between rural and urban areas and to serve one Florida. The UF/IFAS Extension network addresses the needs of all. Through 4-H, youth are developed into future leaders for our world. The Florida Master Gardener Volunteer Program and Florida-Friendly Landscaping™ Program keep our communities beautiful and steward our precious resources. Family resource support encourages healthy living through nutrition, financial planning and interpersonal relationships. Our diverse programs respond to the needs of the community, regardless of ZIP code.

UF/IFAS has served Florida communities for more than 100 years. Rural, urban, suburban, coastal, tropical — however you define your community, UF/IFAS is there to provide solutions for a better life.



Learn more about what UF/IFAS is doing in community development here: <https://tinyurl.com/IFAS-Ext-Community>

Philanthropy

Philanthropy helps UF/IFAS reach new heights of excellence.

The UF/IFAS Office of Advancement, in collaboration with the University of Florida Foundation, fosters essential relationships and secures private support to advance the UF/IFAS land-grant mission.

The UF/IFAS Office of Advancement has roots extending back a half-century and was originally known as Special Help for Agricultural Research and Education (SHARE). This was one of the first fundraising programs on campus and benefits UF/IFAS by facilitating gifts supporting initiatives ranging from student scholarships to new scientific instruments to additional Extension personnel.

Altogether, gifts and pledges to UF/IFAS accounted for more than \$16 million in FY 2018-19. Additionally, UF/IFAS has an endowment portfolio of more than \$145 million, which provides

ongoing support for important administrative and faculty positions.

Charitable giving has special meaning for UF/IFAS, because so many of our donors are alumni and current or former UF/IFAS employees who have chosen to give back to help UF/IFAS achieve its many goals.

Donors can choose to support UF/IFAS in several ways, including gifts of cash, real estate, securities, life income gifts and charitable bequests.

UF/IFAS has embarked on its greatest challenge to date: a \$200 million goal as part of the University of Florida “Go Greater” Capital Campaign. These gifts will enable UF/IFAS to improve access to education through scholarships, support world-class faculty and continue finding solutions to global challenges.

Charitable Gifts and Pledges and Endowments

\$16,354,408

Total Gifts and Pledges (FY 2018-19)

412 Endowments.

UF/IFAS Go Greater Campaign Statistics to Date:

\$200M goal with

\$128.59M

raised to date or 64%.

GO GREATER

The University of Florida is among the top fundraising organizations in public higher education. In 2019, annual fundraising topped \$500 million for the first time, and marked the fourth consecutive year that private giving to UF exceeded \$400 million. Now in the culminating phase of its 8-year Go Greater capital campaign, UF is on pace to meet its **\$3 billion campaign goal** (\$2.2 billions raised to date) ahead of schedule.

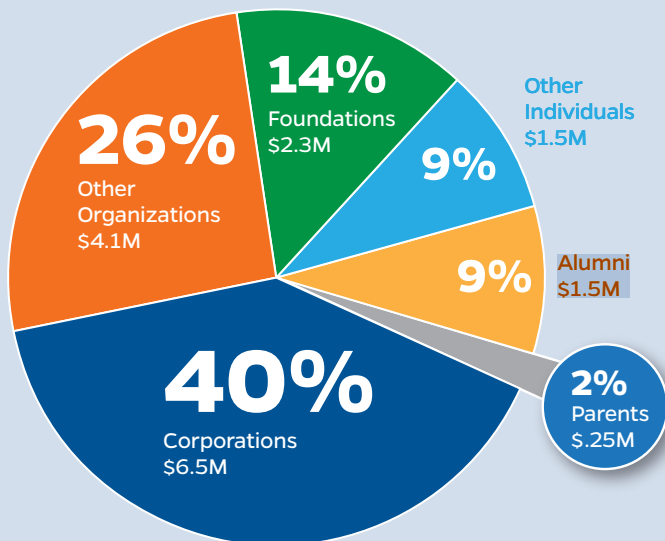
Funds raised advance the university’s mission to serve the public, prepare future generations for the workforce and to be an economic engine for the state — while moving UF closer to its aspiration of being a Top 5 public university.

The Go Greater campaign is specifically focused on four broad areas of concentration: health, the environment, innovation and globalization, with a special emphasis in 2019-20 on the environment.

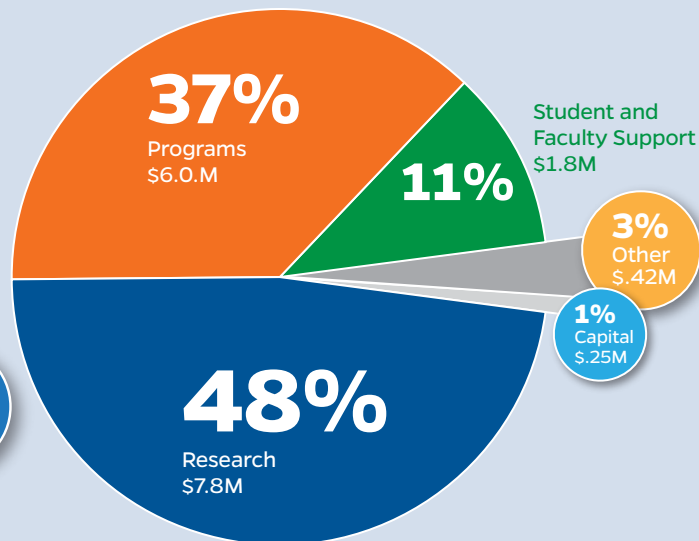
CHARITABLE GIFTS AND PLEDGES GIVEN TO UF/IFAS IN FY 2018-19

Total Gifts and Pledges \$16.4 million (M)

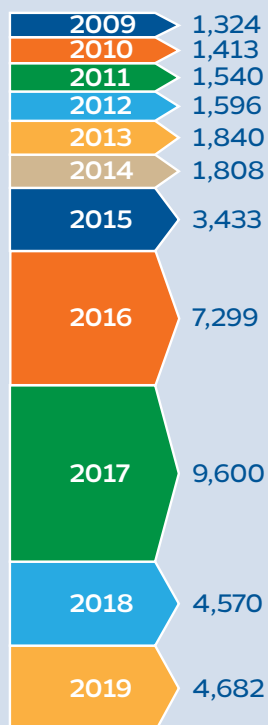
Sources of Private Support



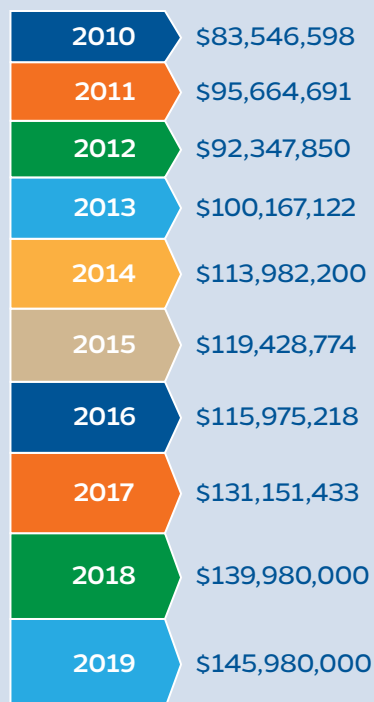
Designation of Gifts and Pledges



Annual Number of Donors



UF/IFAS Endowment Value



UF/IFAS Endowment Growth

Endowments are permanent, named funds that provide annual, renewable support for UF/IFAS programs. Endowment donors designate the use of endowment earnings for a UF/IFAS area or program of their choice. A minimum gift of \$30,000 is required to establish an endowment.

Endowment assets are managed and invested by the University of Florida Foundation through the University of Florida Investment Corporation, created in 2004 to manage UF's investment portfolio. As of June 30, 2019, there are more than 400 UF/IFAS endowment funds that were established by individual alumni, businesses, organizations, associations and friends, with a combined value of more than \$145 million.

A LEGACY OF EXCELLENCE

National & Regional Awards

In recognition of their outstanding scientific expertise and academic performance, UF/IFAS faculty members frequently receive awards and honors for their teaching, research and Extension efforts, as individuals or as members of project teams.

The following is a selection of prestigious national and regional recognitions awarded to UF/IFAS personnel recently.

UF/IFAS CALS

In June 2019, a total of 21 faculty members and graduate students who teach in the UF/IFAS College of Agricultural and Life Sciences were honored by the North American Colleges and Teachers of Agriculture (NACTA) at the NACTA annual conference.

Nicole Stedman, a professor with the Department of Agricultural Education and Communication, was the sole 2019 recipient of NACTA's highest teaching award for faculty members, the Teaching Award of Excellence. Similarly, Henry Hochmair, an associate

professor with the School of Forest Resources and Conservation, was the sole 2019 honoree for the Excellence in Teaching and Learning with Technology Award. In addition, seven UF/IFAS lecturers and faculty members received the NACTA Educator Award, and 12 UF/IFAS graduate students received the NACTA Graduate Student Teaching Award.

Altogether, more than 80 UF/IFAS CALS faculty members have received NACTA teaching awards since 1990.

UF/IFAS RESEARCH

Since 2007, the USDA, through its National Institute of Food and Agriculture (NIFA), has sponsored the prestigious NIFA Partnership Awards Program, which honors exceptional university-based research efforts. Teams led by UF/IFAS personnel have received NIFA Partnership Awards five times since 2012.

2017 – The Corn Heat-Stress Adaptation Team sought to boost field corn yields in hotter climates and received a NIFA Partnership Award for multistate efforts.

2016 – The Pine Integrated Network: Education, Mitigation, and Adaptation Project, also known as PINEMAP, received a NIFA Partnership Award for outstanding performance integrating and fulfilling the

land-grant teaching, research and Extension missions while helping secure the future of the southeastern planted-pine industry.

2014 – The Southeast Climate Extension project received a NIFA Partnership Award recognizing it as an outstanding multistate effort. The project provides southeastern farmers with decision-making tools related to weather and climate.

In September 2019, UF/IFAS plant molecular biologist Anna-Lisa Paul, a research professor with the UF/IFAS Horticultural Sciences Department, was awarded the NASA Exceptional Scientific Achievement Medal for her work investigating methods of growing plants aboard space stations.

UF/IFAS EXTENSION

The UF/IFAS-led program, “Healthy Gulf, Healthy Communities” sought to assist residents of coastal West Florida and Alabama in the wake of the 2010 Deepwater Horizon oil spill, and to help them better prepare for future disasters.

In November 2018, the project was announced as one of four winners of the W.K. Kellogg Foundation Community Engagement Scholarship Award, which

recognizes collaborative efforts between university personnel and members of individual communities. The award was presented Nov. 11 at the annual meeting of the Association of Public and Land-grant Universities, in New Orleans. It marked the first time a UF-led team had garnered a Kellogg award.

NAS Members & AAAS Fellows

Two of the highest honors a scientist can receive are election to the National Academy of Sciences (NAS) and election as a Fellow of the American Association for the Advancement of Science (AAAS).

Both of these non-profit organizations promote scholarship and recognize outstanding scientific achievement.

The National Academy of Sciences (NAS) was created by legislation that President Abraham Lincoln signed in 1863, less than one year after he signed the Morrill Act to create the land-grant university system. Total membership in NAS is approximately 2,350 and a maximum of 120 new members are elected annually; candidates may only be nominated by current members and are evaluated on the basis of significant, sustained research achievement.

Among UF/IFAS faculty members, including retired faculty, those elected to NAS include:

Linda Bartoshuk

Food Science and Human Nutrition
Elected 2003

Robert Cousins

Food Science and Human Nutrition
Elected 2000

Roy Curtiss, III

Infectious Diseases and Immunology
UF College of Veterinary Medicine
Elected 2001

James Jones

Agricultural and Biological Engineering
Elected 2012 (National Academy of Engineering)

Harry Klee

Horticultural Sciences
Elected 2012

Pedro Sanchez

Soil and Water Sciences
Elected 2012

Formed in 1848, the American Association for the Advancement of Science (AAAS) is the world's largest general scientific society. Fellows are nominated in several ways, and elected by the AAAS Council; approximately 400 Fellows are elected each year.

Among UF/IFAS faculty members, including retired faculty, those elected AAAS Fellows include:

Bryony Bonning

Entomology and
Nematology
Elected 2010

Ken Boote

Agronomy
Elected 2010

Robert Cousins

Food Science and
Human Nutrition
Elected 2014

Roy Curtiss, III

Infectious Diseases and
Immunology
UF College of
Veterinary Medicine
Elected 1990

Robert Ferl

Horticultural Sciences
Elected 2018

Peter Hansen

Animal Sciences
Elected 2007

Andrew Hanson

Horticultural Sciences
Elected 2014

James Jones

Agricultural and
Biological Engineering
Elected 2012

Jeffrey Jones

Plant Pathology
Elected 2018

Harry Klee

Horticultural Sciences
Elected 2009

Karen Koch

Horticultural Sciences
Elected 2012

Lena Ma

Soil and Water Sciences
Elected 2011

P.K. Nair

School of Forest
Resources and
Conservation
Elected 2002

Ramesh Reddy

Soil and Water Sciences
Elected 2001

Pedro Sanchez

Soil and Water Sciences
Elected 2005

Frank White

Plant Pathology
Elected 2015

Destination Florida





There's a reason the Sunshine State is the tourism capital of the world and the third most populous state in the country. As a Florida resident, you're never far from the world's best beaches, theme parks and attractions (and their Florida resident discounts) and cultural arts. Factor in our favorable tax rate and entrepreneurial spirit, and it's easy to see why so many individuals, families and businesses choose to make Florida their home.

- One of only seven U.S. states without state income tax.
- More than 160 state parks that offer hiking, fishing, canoeing, camping and so much more.
- Walt Disney World, Universal Orlando, Legoland, Busch Gardens, SeaWorld, Kennedy Space Center, Daytona International Speedway, the mermaids of Weeki Wachee and the Florida Museum of Natural History... all just a car ride away.
- Hundreds of miles of beaches to enjoy year-round.

Gainesville

One of the Top 100 Best Places to Live.

From the natural beauty of our wide-open trails, to the hospitality of our tight-knit community, to the stores we love and the new ones to discover, it's all here. But that's just a snapshot of today — because our home city has big plans for the future.

With an average high of 65 degrees in January, you rarely hear the terms “wind chill factor” and “freezing rain” in Gainesville — unless you happen to be watching a national weather forecast. Mild winters and warm summers are par for the course in the Sunshine State. With its beautiful natural landscape, nearby freshwater springs and stunning prairies, Gainesville has been called an “urban forest.”

There's more to the climate in Gainesville than the weather and scenic environment. There is the climate of innovation and entrepreneurship that has resulted in the creation of a substantial number of new businesses in recent years, making the city especially attractive for dual-career families.

UF's Strategic Development Plan provides a robust framework for building a more dynamic city by leveraging the brainpower of experts across the university. This innovative model for town-and-gown relationships earned UF the Society for College and University Planning's 2017 “Excellence in Planning for an Existing Campus” award. The worldwide organization's recognition is akin to winning an Academy Award in the motion picture industry.

UF|IFAS
UNIVERSITY of FLORIDA