Public Investment in UF/IFAS Yields Significant Economic Benefits and Jobs

Every $1 invested in agricultural research will yield $20 in benefits.

UF/IFAS College of Agricultural and Life Sciences is one of the Top 5 largest colleges of its type nationwide for enrolled students.

$3.23 billion in benefits from UF/IFAS expenditures on agricultural R&D for FY 2018-19.

UF/IFAS research garnered $161.3 million in sponsored projects in FY 2018-19.

28,404,945 UF/IFAS Extension personal client contacts in CY 2018.

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A high-tech breakthrough from UF/IFAS will soon enable citrus growers to diagnose nutrient deficiencies and other problems right in the grove using a smartphone. Citrus experts have developed an app that can analyze photos of citrus leaves and detect any of four nutrient deficiencies, three diseases and one arthropod pest that might be affecting tree health. The research team plans to expand the suite of problems the app can diagnose.

A computer-guided “smart sprayer” device promises to reduce herbicide use in outdoor vegetable production with plasticulture systems. The sprayer can recognize openings in the plastic sheeting that covers the crop beds — the only place herbicide is needed — and apply a small amount of herbicide to each opening. Today, the smart sprayer’s accuracy ranges from 55% to 90%. Researchers believe it could be improved to nearly 100%.

In tests, the citrus app correctly identified problems in 89% of samples submitted.

Studies show that the UV system reduced the presence of powdery mildew by 80% to 95%.

Researchers with the UF/IFAS Gulf Coast Research and Education Center believe they’ve found a more sustainable method for protecting strawberry plants from the disease powdery mildew — ultraviolet light. They developed a self-guided robot that emits bursts of UV light as it traverses strawberry fields at night — enough to kill the powdery mildew pathogen but not enough to harm plants or fruit.

Precision Agriculture

Precision agriculture uses high technology to address crop-management issues more efficiently than traditional methods can. At UF/IFAS, we’ve harnessed precision agriculture since the 1980s. Innovations we’re developing today will help growers tomorrow — by reducing expenses, limiting environmental impact and boosting yields.
Water Quality and Supply

By 2025, Florida’s population is projected to reach 22 million and the state’s demand for potable water will reach 9.1 billion gallons per day — a 26.4% increase from 2015. In order to ensure that all Floridians have access to the water they need, UF/IFAS experts are conducting cutting-edge research and bringing the results directly to growers and the public.

The Florida-Friendly Landscaping™ (FFL) program educates residents on protecting water quality by applying nine FFL principles.

- In 2018, FFL helped homeowners conserve 386,541,761 gallons of water by following science-based advice and Best Management Practices.
- Use of FFL principles saved residents $1,279,453 in billings.
- 220,000 Florida homeowners and landscaping professionals participated in water-conservation programming offered by UF/IFAS Extension during 2018.

Biological Control

Florida is home to more than 1,400 non-native plant species. These “worst of the worst” plants are called invasive species. UF/IFAS researchers have found natural enemies that could help control these pest plants. This practice is known as biological control, and UF/IFAS has successfully used it against tropical soda apple, melaleuca and pest mole crickets.

During 2019, a UF/IFAS project conducted government-authorized releases of a tiny, flying insect that should help manage the Brazilian peppertree. Commonly called the Brazilian peppertree thrips, this insect feeds on the peppertree in its native Brazil, and appears able to survive in Florida.

- Brazilian pepper trees, an invasive species that occupy about 700,000 acres in Florida, grow up to 30 feet tall and take over space where native plants should be.
- On average, 77% of Florida Brazilian peppertrees are susceptible to attack by the biological control species.
- In 2016, the South Florida Water Management District spent $2.6 million in herbicidal controls for the Brazilian peppertree.
- One rancher indicated that his operation spends about $250,000 annually to fight Brazilian peppertree on 40,000 acres.
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UF/IFAS Statewide Locations

Legend
- Research and Education Centers
- UF/IFAS CALS Academic Locations @ REC
- Research and Demonstration Sites
- County Extension Offices
- UF Main Campus
- UF/IFAS Extension Districts

12 Research and Education Centers
- Citrus REC - Lake Alfred
- Everglades REC - Belle Glade
- Florida Medical Entomology Lab - Vero Beach
- Fort Lauderdale REC - Davie
- Gulf Coast REC - Balm
- Gulf Coast REC - Plant City
- Indian River REC - Fort Pierce
- Mid-Florida REC - Apopka
- North Florida REC - Quincy, Marianna, Live Oak
- Range Cattle REC - Ona
- Southwest Florida REC - Immokalee
- Tropical REC - Homestead
- West Florida REC - Jay
- West Florida REC - Milton

5 Research and Demonstration Sites
- Hastings Agricultural Extension Center - Hastings
- Nature Coast Biological Station - Cedar Key
- Ordway-Swisher Biological Station - Melrose
- Plant Science Research and Education Unit - Citra
- Tropical Aquaculture Laboratory - Ruskin

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Learn about UF/IFAS Research Discoveries and the Florida Agricultural Experiment Station at:
https://research.ifas.ufl.edu/research-areas/brochures/

This report, along with state-level and county-level information on UF/IFAS Extension impacts, can be found at:
http://ifas.ufl.edu/economicimpacts.html

Information on statewide UF economic impacts can be found at:
http://economicimpact.ufl.edu

An Equal Opportunity Institution. Information about alternate formats is available from UF/IFAS Communications, University of Florida, P.O. Box 110810, Gainesville, FL 32611-0810.