

Institutional Information Request Form

Southern Region: Value of Extension Services and Experiment Stations

The Battelle Memorial Institute is working with the leadership of the *Association of Southern Region Extension Directors* and the *Southern Association of Agricultural Experiment Station Directors* in producing analysis and a high-profile report on the special value of extension and experiment stations in the development of the 21st Century agbioscience economy. Each of the land grant universities in the 13 state and 2 U.S. territory southern region is collaborating in performance of this important project.

For each of the land-grant institutions participating in this project, Battelle is requesting information, data, project examples, etc. that will help illustrate the value of experiment stations and extension services. Completion of this information request is an important step in the information gathering required for this project. We are requesting that at each institution, the Experiment Station Director and the Extension Director **jointly** complete each section to the best of your collective ability. Note that within this form, Agbiosciences includes all aspects of agricultural, environmental, and biological sciences; as well as forestry, fisheries, wildlife, agro-tourism, and recreation; which are within the purview of the experiment station and/or extension service. Also, if you have additional supporting documents, reports, statistical summaries, etc. that you believe would be helpful to this project please forward them to the consulting team at Battelle together with your completed form. The form is set-up using MS-Word tables so you can type directly into the table boxes.

Please return the completed form to Simon Tripp at Battelle via email to tripps@battelle.org If you have questions please direct them to Simon at:

Simon J. Tripp
Senior Director
Battelle Memorial Institute
Technology Partnership Practice
6 Jaycee Drive
Pittsburgh, PA 15243
412-276-1986
Cell: 412-523-6895
tripps@battelle.org

Section 1: Institutional Profile

<i>University Name</i>	<i>University of Florida</i>
<i>Extension Service Director (name, phone, email)</i>	<i>To Be Named Interim 352-392-1761 ?@ufl.edu</i>
<i>Experiment Station Director (name, phone, email)</i>	<i>John P. Hayes 352-392-1784 hayesj@ufl.edu</i>

Personnel

<i>Number of Personnel in Extension (FTE)</i>	<i>680.24</i>
<i>Number of Personnel in Experiment Station (FTE)</i>	<i>912.80</i>

** Please do not include student employees, graduate assistants or temporary personnel*

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Section 2: Income/Revenue Sources *compiled by N. Wilkinson*

Income Source	2011 \$ Income Received by Extension	Funding Trend for Past 3 Years	2011 \$ Income Received by Experiment Stations	Funding Trend for Past 3 Years
Federal Formula Funds	\$7,064,121 <i>RREA= \$85,804; Smith Lever 3(b) & 3(c)= \$4,545,751; EFNEP = \$2,213,204; CSRS = 219,362</i>	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing	\$4,687,190 <i>Hatch Regular = \$2,973,395; Hatch MultiState = \$940,037; McIntire Stennis = \$773,758</i>	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing
State Appropriations <i>From IFAS Budget Office</i>	\$38,981,549	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing	\$69,236,141	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing
Local Government Appropriations (Counties, etc.)	\$2,238,921	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing	\$757,778	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing
Federal Grants and Contracts	\$24,089,640	<input checked="" type="checkbox"/> Increasing <input type="checkbox"/> Stable <input type="checkbox"/> Decreasing	\$56,826,040	<input checked="" type="checkbox"/> Increasing <input type="checkbox"/> Stable <input type="checkbox"/> Decreasing
State Grants and Contracts	\$1,569,535	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing	\$4,928,483	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing
Local Grants and Contracts <i>Water Mgt Districts</i>	\$181,750	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing	\$2,739,235	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing
Industrial Grants and Contracts, including grants and contracts from commodity groups	\$0	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing	\$2,448,006	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing
Foundation Grants and Contracts	\$1,164,085	<input checked="" type="checkbox"/> Increasing <input type="checkbox"/> Stable <input type="checkbox"/> Decreasing	\$14,889,920	<input checked="" type="checkbox"/> Increasing <input type="checkbox"/> Stable <input type="checkbox"/> Decreasing
All Other Grants and Contracts	\$64,298	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing	\$1,145,578	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing
Sales of Products and Services <i>Fund 181 & 182</i>	\$112,158.73	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing	\$1,250,822.64	<input checked="" type="checkbox"/> Increasing <input type="checkbox"/> Stable <input type="checkbox"/> Decreasing
Intellectual Property Revenues	\$0	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing	\$7,106,617	<input checked="" type="checkbox"/> Increasing <input type="checkbox"/> Stable <input type="checkbox"/> Decreasing
Gifts	\$6,664,020.97	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing	\$6,664,020.97	<input type="checkbox"/> Increasing <input checked="" type="checkbox"/> Stable <input type="checkbox"/> Decreasing
Other	\$ N/A	<input type="checkbox"/> Increasing	\$ N/A	<input type="checkbox"/> Increasing

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		<input type="checkbox"/> Stable <input type="checkbox"/> Decreasing		<input type="checkbox"/> Stable <input type="checkbox"/> Decreasing
TOTAL	\$82,130,079	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing	\$172,679,832	<input type="checkbox"/> Increasing <input type="checkbox"/> Stable <input checked="" type="checkbox"/> Decreasing

Are these income/revenue numbers based on a cash or accrual accounting basis? [Our response depends on income source from the list above.](#) For example, the grants and contracts area is accrual basis while the sale of products and services is on a cash basis.

Income Trends:

During the past five years, what trends have been observed in the funding for extension and experiment station activities? What are key funding challenges? Where have the most notable funding declines or increases occurred?

Decreasing State of Florida; Extramural support largely declining except from federal sources; Our key funding challenge remains adapting our more limited resources in a continuing climate of uncertainty. Our most notable declines have been from State of Florida, as well as a new University of Florida budget model which shifted historical resources. We have experienced success in the federal grants world though we are uncertain if this will continue long term.

Section 3: Research and Extension Activities

Key Initiatives, Institutes and Programs:

Please provide a description of FIVE key centers, institutes, programs or initiatives that are true signatures of experiment station and extension work at your institution. Here we are looking for descriptions of initiatives, centers, programs, etc. for which your university is internationally or nationally well-recognized as a leader.

1. <i>Climate</i>
2. <i>Water</i>
3. <i>Energy</i>
4. <i>Genetics</i>
5. <i>Emerging Pathogens</i>

Special Research and Extension Infrastructure

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Please provide a description of FIVE special assets or infrastructure investments that support agbioscience and related development at your institution. Examples might include pilot plant facilities, unique scientific research infrastructure, biosecurity facilities, camps, etc.

1. <i>Stan Mayfield Biorefinery Pilot Plant (Perry, Florida)</i>
2. <i>Plant Sciences & Education Unit (PSREU)</i>
3. <i>Austin Cary Memorial Forest and Ordway Swisher Biological Station (OSBS)</i>
4. <i>High Performance Computing Center</i>
5. <i>Interdisciplinary Center for Biotechnology Research (ICBR)</i>

Most Notable Assets, Centers, Programs or Initiatives by Category

For each of the areas of focus listed below, please provide what you consider to be the top TWO most notable strengths (programs, assets and infrastructure, centers, etc.) of your institution :

Plant Sciences, Crop Science, Plant Genetics and Agronomy

1. <i>Genetics Institute</i>
2. <i>Breeding Programs in Florida's major specialty crops</i>

Animal Sciences, Animal Health, Livestock

1. <i>Cattle Feed Efficiency Unit (Marianna, FL)</i>
2. <i>Eight major cattle, dairy and horse experimental farms</i>

Food Science, Food Product Development, Advanced Nutrition and Health Products

1. <i>Nationally recognized sensory facility and program</i>
2. <i>Aquatic Food Products Pilot Plant</i>

Food Safety and Biosecurity

1. <i>Emerging Pathogens Institute</i>
2. <i>BL-3 Greenhouses (5)</i>

Industrial Bioeconomy, Biofuels, Biobased Chemicals, Biobased Materials and Fibers

1. <i>Stan Mayfield Biorefinery Pilot Plant</i>
2. <i>Cellulosic Ethanol Pilot Plant</i>

Environmental Sciences, Natural Resources, Sustainability

1. <i>Ordway-Swisher Biological Station</i>
2. <i>Austin Cary Memorial Forest</i>

Agritourism and Recreational Hunting and Fishing

1. <i>Tropical Aquaculture Laboratory</i>
2. <i>National Oceanic and Atmospheric Administration Fisheries Service Recruiting, Training & Research</i>

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Program

Family Development

1. Florida Master Money Mentor Program
2. Florida Expanded Food and Nutrition Education Program

Youth Development

1. 4-H Youth Development Program
2. Fishing for Success Program

Community and Economic Development

1. Program for Resource Efficient Communities
2. Natural Resource Leadership Institute

Other, including multi-focus:

1. Water Institute
2. Climate Institute

Intellectual Property

	2009	2010	2011
# of Invention Disclosures	62	59	53
# of Patents Applied For	24	54	48
# of Patents Awarded	50	52	30
# of Licenses Executed	282	129	224
# of Business Start-Ups	3	0	0
# of Plant Variety Protection Certificates Applied For	2	3	2
# of Plant Variety Protection Certificates Awarded	0	2	1
\$ Value of Income received from Plant Variety/Germplasm Development	\$3,509,952	\$3,783,501	\$4,412,130
\$ Value of Income received from all other Intellectual Property	\$6,103,559	\$6,655,713	\$7,106,617

Company Spin-Offs and Commercialization

Please provide examples of any start-up companies located in your state or the southern region that resulted from research discoveries, innovations or technologies developed at your institution in the past 10 years:

Pathogenes Inc. (<http://pathogenes.com/>) – John Dame and Siobhan Ellison, in the College of Veterinary Medicine, Department of Infectious Diseases and Pathology

Pathogenes developed surface antigens from *Sarcocystis neurona*, for antibody detection in serum. We

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developed equine animal models to advance the study of equine protozoal myeloencephalitis (EPM) in horses.

Integrated Plant Genetics, Inc. (<http://www.ipgenetics.com/>) – Dean Gabriel, Department of Plant Pathology

A development stage biotechnology company, in business to develop, produce and license new biotechnologies for the purposes of microbial, horticultural, agricultural and forest tree improvement. We provide contract genetic engineering services to industry and have developed advanced plant breeding technologies for freedom to operate in adding value to crops and to provide non-chemical pest and pathogen control.

BioProdex, Inc. (<http://www.bioprodex.com/>) – Raghavan Charudattan, Department of Plant Pathology
Developing a plant virus-based bioherbicide that is highly effective in controlling tropical soda apple (*Solanum viarum*), a noxious weed in Florida and the southeastern states.

Cooley Biotech, LLC (no website) – Peter Hansen, Department of Animal Sciences
Developed proprietary culture media that improves *in vitro* production and culture of bovine embryos

RAPiD Genomics, LLC (http://www.research.ufl.edu/otl/pdf/startup/RAPiD_Genomics_COS.pdf) –
Matias Kirst, School of Forest Resources & Conservation

We are in the process of licensing technology to RAPiD Genomics that will enable cheaper and more rapid genotyping of agricultural crops.

Apollidon Learning (<http://www.apollidon.com/>) – Ian Tebbett, College of Veterinary Medicine
Dedicated to worldwide marketing and student recruitment for distance education masters degrees, as well as to providing premier technology support. We promote the World's Largest Forensic Science Program for the UF.

High Impact Innovations and Technology Development

Please provide FIVE examples of innovations or technology developments that have had a substantial impact on the field of agbioscience and/or associated agbio industries in the past 10 years. Examples might include crop varieties with enhanced yield characteristics, new processes or technologies introduced that significantly enhance productivity in industry, etc.

- Lonnie Ingram and colleagues (Microbiology & Cell Science) have developed various biocatalysts (based on *E. coli* and *B. coagulans*) to produce industrial chemicals such as lactic acid, succinic acid, malic acid. These have been exclusively licensed to Myriant (<http://www.myriant.com/>). Large-scale commercial production of succinic acid using this technology licensed from UF will commence in 2013 from a plant being built by Myriant in Lake Providence, LA. Let me know if you need more specific details.

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- Curt Hannah (Horticultural Science) identified a mutant of the AGPase gene in corn which is involved in starch biosynthesis (dubbed sh2i). When this gene variant is used in sweet corn it allows breeders to generate varieties that have a higher germination rate, but also high post-harvest sweetness. This technology has been non-exclusively licensed to four different breeding companies, including Abbott & Cobb and Syngenta, that are both selling varieties incorporating the sh2i gene variant.
- Janet Yamamoto (College of Veterinary Medicine) has developed a vaccine against Feline Immunodeficiency Virus (FIV) that is still the only FIV vaccine available. This vaccine is sold by Pfizer Animal Health (<http://www.pfizeranimalhealth.co.nz/sites/pfizeranimalhealth/Pages/Fel-O-VaxFIVVaccine.aspx?Species=Cats>) and Boehringer Ingelheim Animal Health.
- Nancy Denslow (College of Veterinary Medicine) developed antibodies and an ELISA procedure for the detection of endocrine disrupting chemicals (<http://www.biosense.com/comweb.asp?articulo=208&segment=3>). This technology is licensed and sold by a Norwegian company – Biosense Laboratories S.A. (<http://www.biosense.com/index.asp>).
- Michael Dukes (Agricultural & Biological Engineering) developed an automatic control system for irrigation systems that measures soil moisture and greatly reduces over-irrigation. This technology is licensed to Jain Irrigation Systems (<http://www.jains.com/>) and is incorporated into a number of their products

Additional comments or items of note regarding experiment station and extension impacts:

NOTE: Dr. Su's termite control technology Sentricon licensed to Dow AgroSciences was developed and licensed **more than 10 years ago**

Section 4: Extension Service Programs *to be compiled by County Ops & Extension Dean's office*

Statistics: please provide basic metrics and statistical information for extension:

Metric	Number
Number of county/parish offices	68
Number of multi-county/multi-parish regional offices	0
Number of major 4H camps	4
Number of 4H participants	237,351
Number of contacts with clients recorded by extension for the most recently completed year (include professional and volunteer contacts)	14,640,740
Number of volunteers for the most recently completed year and number of hours volunteered	Volunteers (37,241); Hours (1,438,591)

Please provide selected examples of notable/high impact projects or programs of extension that you would like considered for inclusion within the Battelle report. Please give consideration to including both rural and urban programs.

Business Development Programs/ Impacts

1) UF/IFAS Extension's Small Farms and Alternative Enterprises Program helps create new small farm businesses in Florida. The program trains more than 32,000 people per year, and the Small Farms web site receives more than 70,000 visits per month. 2) Training provided by UF/IFAS Extension has facilitated development of a cultured hard clam industry around Cedar Key. A recent study found that the industry sold \$19.9 million worth of clams that generated an economic impact of \$44.9 million. Along with that, \$28.8 million in added-value, \$22.9 million in labor income, and 556 jobs were created.

Community Development Programs/ Impacts

UF/IFAS Extension has a comprehensive Low Impact Development education program that advances Florida towards improved water conservation and energy efficiency.

Family and Consumer Science Programs/ Impacts

1) UF/IFAS Extension offers diabetes education across the state that improves the quality of life for persons with Type 2 diabetes, decreasing the number of Floridians suffering from this disease. 2) IFAS Extension's Expanded Food and Nutrition Education Program (EFNEP) educated limited-resource adults and youth about nutrition, food resource management, and food safety. For every dollar spent on EFNEP programming, an estimated \$10.64 is saved in health

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care costs. 3) IFAS Extension teaches the Florida Master Money Mentor Program that provides basic personal finance coaching statewide. This budding program has already helped hundreds of families improve their financial management.

4-H and Other Youth Development Programs/ Impacts

Florida Extension's 4-H Youth Development Program positively affects the lives of more than 263,000 of Florida's youth.

Other high impact/notable Extension programs

1) The UF/IFAS Green Industries Best Management Practices Program has allowed more than 10,000 landscape maintenance workers to become state-certified to manage urban landscapes, which positively affects Florida's water quality. 2) UF/IFAS Extension advances our agricultural producers' food safety knowledge through Good Agricultural Practices (GAPs), which helps prevent food-borne illnesses across Florida and beyond. 3) IFAS Extension is critical to the development and implementation of agricultural and urban Best Management Practices (BMPs). We demonstrate BMPs on farms and we lead educational programs on the value of BMPs. Due mainly to our educational effort, about half of Florida's agricultural acreage is enrolled in the statewide BMP program to protect water resources.

Additional comments or items of note regarding extension:

What diagnostic or other service facilities are operated by extension? What is the annual volume of business in number of clients and dollars?

Extension Soil Testing Lab:

- Total number of samples run- 15,579
- Total number of external clients served: 5,536
- Total revenue earned- \$114,933
- Average no. of samples per client= 2.8
- Per sample value was- \$7.38
- Per client value= \$20.76

Plant Diagnostic Lab:

- 2,182 samples
- 1,450 clients

Section 5: Off-Campus Experiment and Extension Stations, Research and Extension Farms, and Outlying Research and Extension Centers *to be compiled by Cassie Lema (N. Wilkinson added acreage from Sheri Munns)*

Please provide a listing of your off-campus agricultural experiment and extension station locations, including those near the main campus but not on campus, and other key research and extension locations across the state where faculty conduct research and/or extension activities, together with key characteristics or focus areas of each. *Note: please cut and paste table as needed to create enough entry places for all of your experiment station sites.*

Station 1

Station name	Citrus REC – Lake Alfred, FL
Location (zip code)	33850-2299
Size (acres), including owned and long-term leased land	695 acres
Key focus area(s) (e.g. poultry, crop demonstration, etc.)	citrus disease management, citrus breeding and genetics, citrus management
Notable or unique characteristics or assets	world's largest citrus research center
Number of personnel (FTEs)	215

Station 2

Station name	Everglades REC – Belle Glade, FL
Location (zip code)	33430-4702
Size (acres), including owned and long-term leased land	784 acres
Key focus area(s) (e.g. poultry, crop demonstration, etc.)	sugarcane, vegetable production, soil testing, crop improvement, pest management
Notable or unique characteristics or assets	Everglades Agricultural Area
Number of personnel (FTEs)	43

Station 3

Station name	Florida Medical Entomology Laboratory – Vero Beach, FL
Location (zip code)	32962-4657
Size (acres), including owned and long-term leased land	31 acres
Key focus area(s) (e.g. poultry, crop demonstration, etc.)	Mosquito Biology and Ecology, Arboviral Diseases
Notable or unique characteristics or assets	one of the world's largest research institutions devoted to the understanding and control of medically important and biting insects

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<i>Number of personnel (FTEs)</i>	17
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Station 4

<i>Station name</i>	<i>Ft. Lauderdale REC – Ft. Lauderdale, FL</i>
<i>Location (zip code)</i>	3314-7719
<i>Size (acres), including owned and long-term leased land</i>	66 acres
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	sustainable maintenance and management of landscapes , invasive animals and plants, Palm tree biology and diseases
<i>Notable or unique characteristics or assets</i>	Urban biology and ecology
<i>Number of personnel (FTEs)</i>	37

Station 5

<i>Station name</i>	<i>Gulf Coast REC – Balm, FL</i>
<i>Location (zip code)</i>	33598-6101
<i>Size (acres), including owned and long-term leased land</i>	473 acres
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	vegetable and strawberry production, plant breeding, pest management, plant nutrition, natural resource management, weed science, plant disease diagnostics
<i>Notable or unique characteristics or assets</i>	Outstanding greenhouse and field facilities for vegetable and strawberry production
<i>Number of personnel (FTEs)</i>	130

Station 6

<i>Station name</i>	<i>Indian River REC – Ft. Pierce, FL</i>
<i>Location (zip code)</i>	34945-3138
<i>Size (acres), including owned and long-term leased land</i>	1,092 acres
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	entomology, virology, and plant pathology of citrus, ornamental and vegetable crops, and study to control invasive plants, citrus and flatwoods soils, water management, micro-irrigation
<i>Notable or unique characteristics or assets</i>	Plant quarantine facilities; water quality research
<i>Number of personnel (FTEs)</i>	39

Station 7

<i>Station name</i>	<i>Mid Florida REC – Apopka, FL</i>
<i>Location (zip code)</i>	32703-8504
<i>Size (acres), including owned</i>	223 acres

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<i>and long-term leased land</i>	
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	nursery and ornamental production; plant protection, weed management, pest control
<i>Notable or unique characteristics or assets</i>	Grape production; nursery production
<i>Number of personnel (FTEs)</i>	65

Station 8

<i>Station name</i>	<i>North Florida REC – Marianna; Quincy</i>
<i>Location (zip code)</i>	32446-7906 (Marianna); 32351-5677 (Quincy)
<i>Size (acres), including owned and long-term leased land</i>	Total = 2,630 acres Marianna site = 1,289 acres Quincy site = 1,021 acres
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	Marianna - agronomic and beef cattle research and education Quincy - vegetables, row crops, forages, ornamentals, tree fruits, and forests for pulp, fiber and energy
<i>Notable or unique characteristics or assets</i>	Feed Efficiency Facility; Crop rotation; Forest production; Wildlife
<i>Number of personnel (FTEs)</i>	68

Station 9

<i>Station name</i>	<i>Range Cattle REC – Ona, FL</i>
<i>Location (zip code)</i>	33865-9706
<i>Size (acres), including owned and long-term leased land</i>	2,830 acres
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	beef cattle and forage production
<i>Notable or unique characteristics or assets</i>	forage; cow/calf production
<i>Number of personnel (FTEs)</i>	20

Station 10

<i>Station name</i>	<i>Southwest Florida REC – Immokalee, FL</i>
<i>Location (zip code)</i>	37142-9515
<i>Size (acres), including owned and long-term leased land</i>	370 acres
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	citrus and vegetable horticulture, agricultural economics, water resources
<i>Notable or unique characteristics or assets</i>	citrus and vegetable production

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Number of personnel (FTEs)	41
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Station 11

Station name	<i>Tropical REC – Homestead, FL</i>
Location (zip code)	33031-3314
Size (acres), including owned and long-term leased land	178 acres
Key focus area(s) (e.g. poultry, crop demonstration, etc.)	tropical and subtropical fruit crops, tropical and temperate vegetable crops, and ornamental crops of southern Florida
Notable or unique characteristics or assets	REC is the only state university research center in the continental U.S. focusing on a large number of tropical and subtropical crops
Number of personnel (FTEs)	29

Station 12

Station name	<i>West Florida REC – Jay & Milton, FL</i>
Location (zip code)	32565 (Jay); 32583 (Milton)
Size (acres), including owned and long-term leased land	178 acres
Key focus area(s) (e.g. poultry, crop demonstration, etc.)	forest ecology, silviculture, plant and wildlife ecology, sustainable cropping systems, turfgrass science
Notable or unique characteristics or assets	forest science and management; wildlife ecology; turfgrass science
Number of personnel (FTEs)	22

Research Sites & Demonstration Units 1

Name	<i>Hastings Research and Demonstration Farm</i>
Location (zip code)	32145-0728
Size (acres), including owned and long-term leased land	81 acres
Key focus area(s) (e.g. poultry, crop demonstration, etc.)	fruit, vegetables, agricultural and community sustainability
Notable or unique characteristics or assets	potato production; water management
Number of personnel (FTEs)	4

Research Sites & Demonstration Units 2

Name	<i>Brooksville</i>
Location (zip code)	34605
Size (acres), including owned	3,800 acres

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<i>and long-term leased land</i>	
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	beef cattle production
<i>Notable or unique characteristics or assets</i>	characterization, evaluation and preservation of tropically adapted beef cattle germplasm.
<i>Number of personnel (FTEs)</i>	3

Research Sites & Demonstration Units 3

<i>Name</i>	<i>Austin Cary Memorial Forest</i>
<i>Location (zip code)</i>	32611
<i>Size (acres), including owned and long-term leased land</i>	2,088 acres
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	forest resource education, demonstration, and research
<i>Notable or unique characteristics or assets</i>	Forest management research and education
<i>Number of personnel (FTEs)</i>	2

Research Sites & Demonstration Units 4

<i>Name</i>	<i>Research Beef Unit</i>
<i>Location (zip code)</i>	32609
<i>Size (acres), including owned and long-term leased land</i>	1,128 acres
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	cattle/beef
<i>Notable or unique characteristics or assets</i>	forage and cattle production
<i>Number of personnel (FTEs)</i>	3

Research Sites & Demonstration Units 5

<i>Name</i>	<i>Santa Fe River Ranch</i>
<i>Location (zip code)</i>	32615-3240
<i>Size (acres), including owned and long-term leased land</i>	949 acres
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	cattle/beef production
<i>Notable or unique characteristics or assets</i>	forage and cattle production
<i>Number of personnel (FTEs)</i>	3

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Research Sites & Demonstration Units 6

Name	Dairy Unit (Hague)
Location (zip code)	32653
Size (acres), including owned and long-term leased land	1,165 acres
Key focus area(s) (e.g. poultry, crop demonstration, etc.)	dairy production
Notable or unique characteristics or assets	dairy production
Number of personnel (FTEs)	15

Research Sites & Demonstration Units 7

Name	Horse Teaching Unit (Wall Farm) and Equine Sciences Center (Lowell)
Location (zip code)	32608 (HTU); 34475 (ESC)
Size (acres), including owned and long-term leased land	372
Key focus area(s) (e.g. poultry, crop demonstration, etc.)	breeding, training, marketing, farm management and health care
Notable or unique characteristics or assets	equine research and education
Number of personnel (FTEs)	7

Research Sites & Demonstration Units 8

Name	Fisheries & Aquatic Sciences – Millhopper & Cedar Key
Location (zip code)	32653 (Millhopper); 32625 (Cedar Key)
Size (acres), including owned and long-term leased land	462
Key focus area(s) (e.g. poultry, crop demonstration, etc.)	protection and management of fisheries and aquatic resources
Notable or unique characteristics or assets	Clam production; Fisheries science and management; Fishing for Success
Number of personnel (FTEs)	10

Research Sites & Demonstration Units 9

Name	4 – H Camps
Location (zip code)	32340 (Cherry Lake); 33852 (Cloverleaf); 32702 (Ocala); 32578 (Timpooshee)
Size (acres), including owned	Total = 119 acres; Camp Cherry Lake (Madison) = 12 acres; Camp

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<i>and long-term leased land</i>	<i>Cloverleaf (Lake Placed) 26 acres; Camp Ocala (Altoona) 60 acres; Camp Timpooshee (Niceville) 21 acres</i>
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	youth development
<i>Notable or unique characteristics or assets</i>	4-H
<i>Number of personnel (FTEs)</i>	1

Research Sites & Demonstration Units 10

<i>Name</i>	<i>Plant Science Research & Education Unit (Citra, FL)</i>
<i>Location (zip code)</i>	32113-2132
<i>Size (acres), including owned and long-term leased land</i>	1,044 acres
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	trees and woody ornamentals, turf production and maintenance, plant breeding, minimum and reduced tillage, crop water management, plant pathology, plant fertility, corn genomics, vegetable production, organic agriculture, citrus, wetland ecology, entomology, nematology and weed science
<i>Notable or unique characteristics or assets</i>	155 research studies at one location
<i>Number of personnel (FTEs)</i>	31

Research Sites & Demonstration Units 11

<i>Name</i>	<i>Ordway Swisher Biological Station (Melrose, FL)</i>
<i>Location (zip code)</i>	32611-0430
<i>Size (acres), including owned and long-term leased land</i>	9,738 acres
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	forest ecology; wildlife ecology; wetlands ecology; fisheries ecology
<i>Notable or unique characteristics or assets</i>	NEON national site; forest, wildlife and wetlands research
<i>Number of personnel (FTEs)</i>	4

Research Sites & Demonstration Units 12

<i>Name</i>	<i>Tropical Aquaculture Laboratory (Ruskin, FL)</i>
<i>Location (zip code)</i>	33570-5434
<i>Size (acres), including owned and long-term leased land</i>	6 acres
<i>Key focus area(s) (e.g. poultry, crop demonstration, etc.)</i>	Ornamental aquaculture production and management Aquatic animal health Ornamental fish reproduction

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	Nonindigenous aquatic species ecology and management
<i>Notable or unique characteristics or assets</i>	ornamental fish production; aquatic animal health
<i>Number of personnel (FTEs)</i>	10

Additional comments or items of note regarding off-campus experiment and extension stations, county offices, etc.:

A county extension office in each of Florida's 67 counties functions as a Gateway to the University of Florida

Section 6: Industry Partnerships

Please provide a description of FIVE notable partnerships that your experiment station and/or extension service has with industry. Examples might include a joint engineering center with an agricultural equipment manufacturer, plant breeding or transgenics programs with seed companies, bioprocess development with chemical or biofuels companies, food product development with food manufacturing companies, etc.

Provide details on companies, groups of companies, commodity groups etc. worked with, key results achieved and thoughts on benefits provided.

<i>1. Stan Mayfield Biorefinery Plant partnership with industry</i>
<i>2. Citrus Research & Development Foundation (CRDF)</i>
<i>3. Forest Genetics Research Cooperative with industry</i>
<i>4. NEON site at the Ordway Swisher Biological Station</i>
<i>5. Food Sensory Facility</i>

What areas of R&D at your institution do you believe hold the most promise for increasing industry engagement in the next five years?

Bioenergy; Plant Innovation Program (PIP); Breeding Program; Fisheries Population Research; Forest Carbon Sequestration and Ecosystem Services; Citrus Health and Production; Vegetable and Fruit Production; Water Quality and Quantity Research

What agriculture, forestry, fisheries or wildlife and natural resource-related industries do you expect to see grow in the southern region during the next five years?

Bioenergy Production from forest resources; Fisheries production and management; recreational fisheries; Wildlife tourism; Carbon sequestration and ecosystem services

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Additional comments or items of note regarding industry partnerships:

Each of our agricultural, forest, and fisheries programs have close ties with industry.

Section 7: Regional Cross-Institutional & Governmental Partnerships

Please provide a description of FIVE projects, initiatives, centers or programs, etc. that your experiment station and/or extension service is engaged in together with other institutions in the southern region. Examples might include joint initiatives in biofuels development, food safety, biosecurity, rural economic development, etc.

1. <i>Southeast Climate Consortium</i>
2. <i>Water</i> The Southern Region Water Program (a.k.a the 406 Water Quality program) includes 1860 and 1892 land grant universities from AL, AR, FL, GA, KY, LA, MS, NM, NC, OK, SC, TN, and TX. This program brings together expertise in animal waste management, agricultural engineering, soil fertility, agronomy, solid waste management, extension education, and agricultural economics. Program planning efforts for regional workshops and other special efforts involve expertise in a range of program areas including 4-H and youth, horticulture, wildlife, rangeland management, forestry, integrated pest management, consumer and family sciences and other areas related to water resources management. The three major goals of the Southern Region Water Program are: 1) To be a source of regional coordination, communication and cooperation for programs on water quantity and quality; 2) To develop and deliver high-priority research and education programs in a timely manner; and 3) To facilitate adoption of appropriate technologies and policies for water quality and quantity protection.
3. <i>PineMap - Southern Pine Climate Change Mitigation and Adaptation (\$20 million USDA NIFA project)</i>
4. <i>South-wide breeding programs -- for example peanut</i>
5. <i>Deep Water Horizon Disaster Effect on Communities, Food Chain, and Ecosystem</i>

What federal agencies do you partner with on major joint projects and programs? Please list the top 3 federal initiatives you are engaged with.

USDA - NIFA grants program; Specialty Crops Initiative; Department of Energy grants programs; NSF grants program; NIH grants program

What state agencies do you partner with on major joint projects and programs? Please list the top 3 state agency initiatives you are engaged with.

Department of Environmental Protection - Everglades restoration; Departmental of Agriculture and Consumer Services -- Specialty Crop Block grants; Division of Plant Industries -- Invasive plants and pests

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What do you believe are some of the unique assets of the southern region that make it particularly well-suited to leadership in the 21st Century agbioscience economy?

Bioenergy Production; Specialty Crop Production; Forest Management and Production; Fisheries Management and Sustainability; Recreation

Additional comments or items of note regarding potential or existing partnerships with other institutions across the southern region:

USDA – ARS; NASA; APHIS

Section 8: Education and Human Capital Development

Student Population

<i>Number of students graduated in most recent year with Bachelor's degrees in related field of study</i>	1,199
<i>Number of students graduated in most recent year with Master's degrees in related field of study</i>	204
<i>Number of students graduated in most recent year with Doctorate degrees in related field of study</i>	98
<i>Number of students graduated in most recent year with Associates or other less than baccalaureate qualifications in related field of study</i>	0

Education and Training Programs

In a science and knowledge-driven economy, skilled human capital is a critically important asset for our states. Please provide details pertaining to education and skills development in the sections below:

New or innovative education programs or degree programs developed (for example: bioprocessing or biorefinery operator training, biosecurity training, education programs in new fields such as functional foods, nutraceuticals, etc.)

8 online Master's Degree Programs: Agroecology, Fisheries and Aquatic Sciences, Agricultural Education and Communication; Entomology and Nematology; Pest Management, Family, Youth and Community Sciences, Forest Resources and Conservation, Ecological Restoration, Environmental Science.

1 online BS Degree: Microbiology and Cell Sciences

Continuing education programs or training for producers or industry

Natural Resources Leadership Institute; Wedgworth Leadership Institute;

Professional Certification Programs

Seafood Sensory Certification Program; Seafood HACCP Certification;

Leadership training, including civic, commodity, government, youth, etc.

Natural Resources Leadership Institute; Wedgworth Leadership Institute

Entrepreneur training and other special training or education initiatives

Small Farms Alliance

National defense, including National Guard, training or educational initiatives

Handling of Fresh Fruits and Vegetables for Afghanistan

K-12 specific educational programs and initiatives

Youth at Risk research program; 4-H and Family Initiative; FFA Science Workshops

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Additional comments or items of note regarding education and training:

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Section 9: Into the Future

What key challenges does your institution face in the future:

Top 5 key challenges for the Experiment Station in your state

1. <i>Water Quality and Quantity</i>
2. <i>Natural Resource Health and Sustainability (Forests, Fisheries, Wetlands...)</i>
3. <i>Sustainability and pest management solutions for agricultural crop industries</i>
4. <i>Protecting human health and well-being through nutrition, workforce development, child health</i>
5. <i>Climate Change and Adaptation</i>
6. <i>Invasive Plants, Animals and Microorganisms</i>

Top 5 key challenges for the Extension Service in your state

1. <i>Increasing sustainability, profitability and competitiveness of agricultural enterprises</i>
2. <i>Enhancing and conserving natural resources and environmental quality</i>
3. <i>Supporting urban and rural community resources and economic development</i>
4. <i>Empowering individuals and families to build healthy lives and achieve economic success</i>
5. <i>Enhancing water quality, quantity and supply</i>

What emerging opportunities or trends do you see impacting your institution:

Top 5 emerging opportunities and trends for the Experiment Station

1. <i>Increase in Multi-discipline research in teams: Topics include Climate, Water, Energy, Food Safety, Sustainability, Food Systems, Resource Production, Human Health</i>
2. <i>Trend towards "Buy Local" movement; We provide science for small farms and food safety</i>
3. <i>Increasing Need for Science in Best Management Practices and Regulatory Practices for Water Quality and Quantity</i>
4. <i>Introduction of New Food Crops</i>
5. <i>Increasing impact of invasive plants, animals and micro-organisms on our agro-ecosystem and natural ecosystems</i>

Top 5 emerging opportunities and trends for the Extension Service

1. <i>Shifting Population Demographics</i>
2. <i>Increase in number of small farm enterprises</i>
3. <i>Rural poverty and its link to obesity and human health</i>
4. <i>Increasing aging population</i>
5. <i>Preparing youth to be productive citizens of the work force and create jobs</i>

For the southern region overall, what do you see as the top five challenges/issues moving forward

1. <i>Forest Management and Sustainability</i>
2. <i>Climate Change -- extremes and adaptation</i>
3. <i>Human Health and Diet</i>
4. <i>Bioenergy Crop and Cellulosic Process Development</i>
5. <i>Economic and Workforce Development</i>

What are the top five differentiating factors of the southern region in agriculture, agbiosciences, community/family/youth development, etc. What makes the region unique or provides key comparative advantages.

1. <i>Need for better education and workforce development</i>
2. <i>Highest production forests in the nation</i>
3. <i>Bioenergy potential</i>
4. <i>Population Growth</i>
5. <i>Increasing demand for seafood</i>

Section 10: Interview Suggestions

Battelle would like to interview some key stakeholders (outside of the land-grant institutions) across the southern region to discuss their perspective on the importance of extension and agricultural research. Please provide the names and contact information for three individuals who you would suggest for interviewing in your state:

Name	Title	Organization	Telephone	Email
John Hoblick	President and CEO	Florida Farm Bureau	352-374-1504	john.hoblick@ffbf.org
Jeff Doran	Executive Vice President	Florida Forestry Association	850-222-6179	jdoran@forestfla.org
Mike Stuart	President	Florida Fruit and Vegetable Association	321-214-5200	mikestuart@ffva.com

Section 11: Additional Comments

Please provide any additional comments, information, data, case-studies, impact assessment results, etc. that you feel may be useful or relevant for inclusion in this project and resulting report:

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