



FY 2021-22 Budget Request

Economic Development and Natural Resources Subcommittee
of the S.C. House Ways and Means Committee
January 20, 2021

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Clemson Public Service Activities (PSA) is part of a **national network** of 50 major land-grant universities—one in each state—that work in concert with the USDA National Institute of Food and Agriculture. Clemson PSA has state and federal mandates to conduct research, extension and regulatory programs that **support economic growth in South Carolina's largest industry** – agriculture and forestry, or agribusiness. Clemson PSA is made up of four interrelated units: Experiment Station, Cooperative Extension Service, Livestock-Poultry Health, and Regulatory Services. The overall agency mission is to conduct research, extension (knowledge transfer) and regulatory programs that:

- Advance the competitiveness of South Carolina's \$42 billion agriculture and forestry industry
- Enhance the economic potential of rural communities
- Safeguard the food supply
- Preserve natural resources
- Prepare young people for the workforce through 4-H

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CLEMSON®

PUBLIC SERVICE ACTIVITIES

As a land-grant university, Clemson is part of a national system created by the U.S. Congress to improve the quality of life for citizens in every state through teaching, research and outreach. The university's statewide **Public Service and Agriculture (PSA)** network conducts research, outreach and regulatory programs that improve and protect economic prosperity and well-being for all South Carolina citizens. Clemson PSA programs develop and deliver impartial science-based information in five areas that align with the national land-grant university system and touch the life for every South Carolinian. Those areas are: agribusiness productivity and profitability; economic and community development; environmental conservation: food safety and nutrition; and youth development and families.

Clemson PSA includes:

Experiment Station

Consisting of six (6) research and education centers (RECs), Experiment Station develops relevant, research-based knowledge for agriculture, forestry and natural resources to enhance economic development

Cooperative Extension Service

Transfers science-based information on agriculture, forestry and natural resources to commercial producers and land managers, and individuals. Programs include agriculture, natural resources, food safety and nutrition, economic and community development, and 4-H youth development.

Livestock-Poultry Health and State Veterinarian

Serves as South Carolina's animal health authority, administers the state meat and poultry inspection program, and operates the state veterinary diagnostic center for livestock and companion animals.

Regulatory Services

Regulates the safe and legal use of pesticides, the quality of fertilizer and lime, the certification of seed purity and germination, the prevention and control of plant pests, and the certification of greenhouse and nursery plants as pest-free.

Research & Education Centers

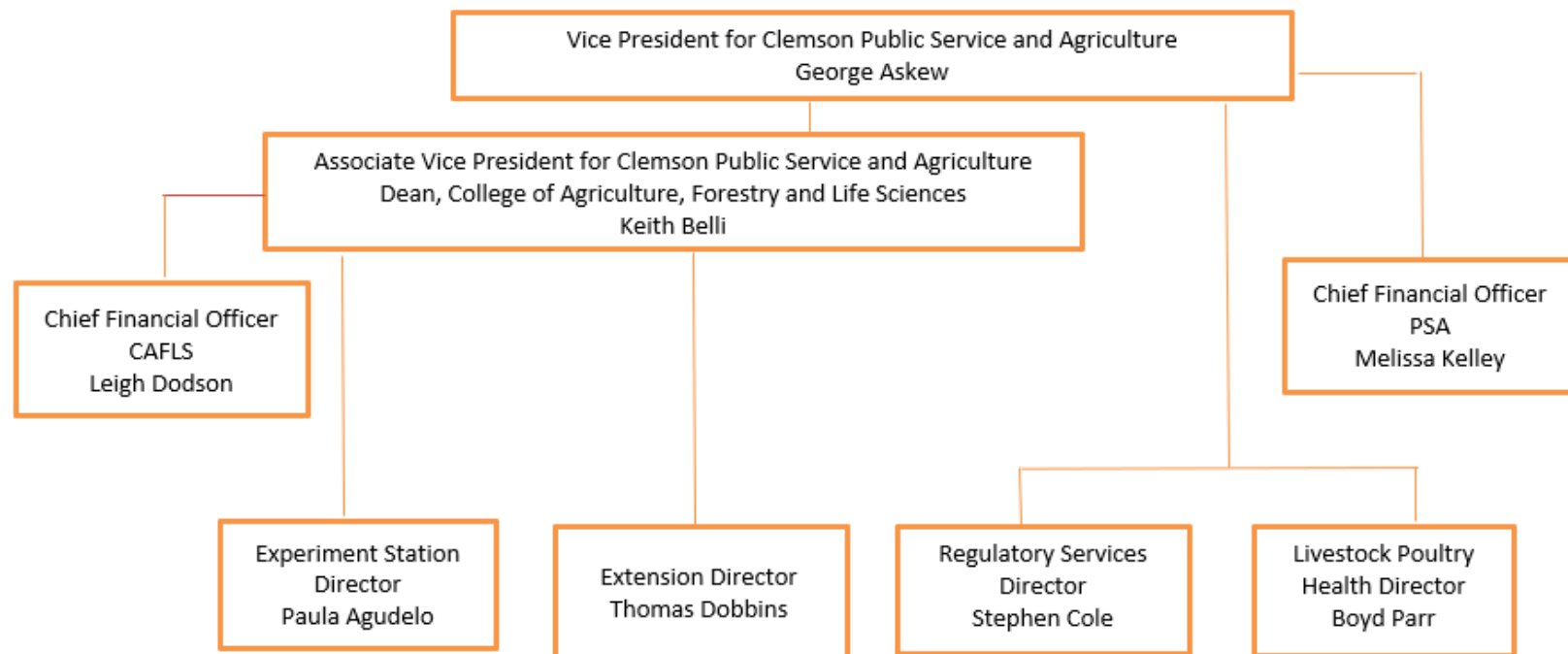
- 1 **Piedmont Research & Education Center:** (Clemson) Consists of all of the research farms located on and around Clemson University's main campus. The mission of the Piedmont REC is to support agriculture research, teaching and public services of Clemson University – 4,400 acres.
- 2 **Sandhill Research & Education Center:** (Columbia) Designs and implements programs that affect agriculture, the environment and the citizens of South Carolina in program areas including agribusiness, wildlife, forestry, entrepreneurship, education and more – 600 acres.
- 3 **Edisto Research & Education Center:** (Blackville) Conducts applied research and outreach programs on sustainable crop and livestock production systems, including cotton, soybeans, corn, peanuts, vegetables, small grains and beef cattle – 2,354 acres.
- 4 **Pee Dee Research & Education Center:** (Florence) Conducts applied research and outreach programs on row crops to enhance yields through genetic improvement and to reduce the environmental impact of crop production and golf course management – 2,300 acres.
- 5 **Coastal Research & Education Center:** (Charleston) Conducts applied research and outreach programs for vegetables, strawberries and specialty crops in partnership with the USDA Vegetable Laboratory – 325 acres.
- 6 **Baruch Institute of Coastal Ecology & Forest Science:** (Georgetown) Conducts research and outreach programs on the environmental impact of changing land-use patterns, coastal natural resource conservation, forestry, water quality, and watershed management – 14,000 acres.



AGENCY NAME:	Clemson University PSA		
AGENCY CODE:	P200	SECTION:	45



PSA Organizational Chart



Clemson University - Public Service Activities FTE Summary

	State	Federal	Other	Total
Authorized	533.53	180.87	119.35	833.75
Vacant*	36.00	9.25	23.75	69.00
Filled*	497.53	171.62	95.6	764.75

* Clemson University PSA FTEs are combined with Clemson University E&G FTEs in the State HR system. The vacant and filled figures above are based on vacant positions within PSA, Extension and the College of Agriculture, Forestry and Life Sciences as of 9/22/20. This is reflective of approximately 11% of the university's total vacant positions. PSA Authorized FTES account for 19% of the university's total authorized FTEs.

PSA Accountability Report Summary

Regulatory Services

- *Agricultural Service Lab*: The ASL has maintained safe operation throughout the COVID-19 crisis to ensure growers had, and continue to have, access to analytical testing; well over 2,000 samples have been analyzed during that time (2020).
- *Department of Pesticide Regulation*: Emergency rules extended applicator renewals throughout 2020 for commercial and private applicators. Renewals were processed throughout the year while support staff worked remotely approximately 33% of the work year.
- *Department of Fertilizer, Regulatory and Certification Services*: The Department of Fertilizer Regulatory and Certification Services teamed up with South Carolina Department of Natural Resources, Clemson University Extension Service, and the Audubon South Carolina to execute a program dedicated to the South Carolina Habitat Act (50-4-10). FRCS has developed the South Carolina's first inspection protocol for solar power generating sites promoting the use of native plant species and to attract species such as gamebirds, songbirds, and pollinators as well as encourage responsible use of herbicide and pesticide treatments.
- *Department of Plant Industry*: Clemson Department of Plant Industry (DPI) continues to lead the nation in technology implementation for survey and inspection programs. In 2019, we moved all survey and inspection programs to online mapping systems completing a 5-year transition for all DPI programs.

Livestock-Poultry Health

- *Highly Pathogenic Avian Influenza (HPAI)* was detected in Chesterfield County, SC in April, 2020 following detection of Low Pathogenic Avian Influenza (LPAI) in March in the same county. Working closely with the poultry growers and integrators operating in the vicinity of those farms, as well as state animal health officials in North Carolina and USDA Veterinary Services, LPH led the effort for these two turkey farms to be quarantined, depopulated, cleaned, and disinfected quickly, thereby preventing any further spread of the virus. The HPAI in SC was detected & eliminated in the barn it mutated from low path to high path before it spread further – all during the COVID pandemic.
- *Animal Health Programs (AHP)*: To improve capability to accurately and quickly trace animal movements during an animal health event, electronic tag panel readers were obtained through a USDA grant for installation at two SC livestock markets as a pilot program for cattle. Also, a supply of electronic tags for cattle are available to cattle producers and veterinarians through AHP provided at no cost by USDA. In FY19-20, Animal Health Programs personnel made 908 inspections at livestock auction markets, after-hours markets, dealers, farms, and miscellaneous sales such as flea markets.
- As lead agency for **Emergency Support Function 17 (ESF-17)**, LPH coordinates agricultural/animal issues under the SC Emergency Operations Plan with a heavy reliance on PSA partners Regulatory Services and Cooperative Extension. Avian influenza was an ESF-17 event. Activities associated with Hurricane Dorian began August 29th with full activation at the state emergency operations center September 1st through September 6th. ESF-17 coordinated preparation, response and recovery from this storm for agriculture and animals.
- *Veterinary Diagnostic Center (CVDC)*: CVDC, the only accredited full service veterinary diagnostic laboratory in the state, completed 93,849 tests and procedures during FY19-20 in performing its animal and food safety diagnostic duties. Of these, 92,755 (over 98%) were related to production animals and regulatory duties; the remaining samples were from companion animals and wildlife.

Clemson Experiment Station

- As a leading land-grant public research institution, Clemson University highlights its federal **grant activities** in this report. The number of externally funded research grants is one measure of Experiment Station scientists' success in competing for limited funding (FY20 477 proposals submitted; 191 funded). These data go along with the high number of educational programs and published peer-reviewed journal articles (FY20 121 Technical Contributions).
- *Sustainable Animal Production System (Planned Program #1)* Clemson researchers studied pre- and post-weaning strategies and milk replacer regimes to improve rumen adaptation during the transition period. Three in-vitro projects examining the effects of using high concentrations of fat in precision-fed system for heifers were completed as were three projects to improve nutrient utilization efficiency and animal health.
- *Sustainable Agriculture Production for Non-food Horticulture Crops (Planned Program #2)* Invasive plant species are key drivers of global environmental changes leading to the disruption of ecosystems. Many invasive species engage in novel niche construction through plant-soil feedbacks facilitated by the input of secondary compounds, which help their further spread and survival. These compounds can persist in soil even after the removal of the invasive species thus creating a legacy effect that inhibits the return of native flora and fauna or inhibit growth of economically important crops.
- *Natural Resource Management (Planned Program #3)* Researchers at the Clemson Waccamaw Research and Education Center have utilized long-term forest structure datasets from damage following Hurricane Hugo in 1994. This dataset was strengthened with more recent storm surge damage from Hurricane Matthew to elucidate mechanisms of forest mortality from storm surge.
- *Global Food Security and Hunger (Planned Program #10)* In 2018, soybeans were the third highest value row crop in SC with \$86 million in revenue. In 2018, 9.5 million bushels of soybeans were produced with a total value of \$10.42/Bu, planted on 390,000 acres. This was the highest number of acres for any row crop. An increase of 5 Bu/A from the varieties produced, planted on only one quarter of the acres grown in 2018, could increase revenue by \$5 million. Scientists are currently in the late stages of trialing three breeding lines, with high yield and high meal protein, that are on course for release.

Cooperative Extension Service

- *Agribusiness Team:* In FY 2019-2020, the Agribusiness team website had almost 12,700 unique visitors, which means that almost half of the estimated farms in SC (25,000) may have taken advantage of the Agribusiness team resources. One of the resources provided by the Agribusiness team were articles in Land-Grant Press by Clemson Extension. Land-Grant Press provides extension-focused articles that target non-academic and professional audiences, such as farmers, producers, and landowners.
- *Food Systems and Safety:* The Clemson Extension Food Systems and Safety team members work closely with both the SC Department of Agriculture (SCDA) and the SC Department of Health and Environmental Control (SCDHEC) through the Food2Market program to assist new and beginner food entrepreneurs who are navigating the food regulation and food safety requirements to produce foods for sale. In FY 2019-2020, the program conducted 400 tests for pH, water activity, gluten, and/or nutrition fact panels for more than 80 individual food entrepreneurs planning to sell foods directly under the SCDA or SCDHEC jurisdiction.
- *4H Youth Development:* When COVID-19 hit the US in March, 2020, youth were left without the structure and outlet that 4-H provides. In response to this, 4H agents in the Midlands region of SC developed the 4H@Home program as a supplemental opportunity for students to continue learning while quarantined at home. The lessons were developed so that the materials needed to complete the projects were likely to already be on hand, thus eliminating a trip to the store. Almost 2,500 children participated representing all 46 SC counties, 46 US states, 1 US territory, 8 countries, and 4 continents.



Authorization and Expenditures

Clemson University - PSA (P200)				
Total Authorization and Expenditures Comparison				
FY20 – FY21 YTD (11/30/20)				
	FY19-20		FY19-20	
	Authorized	Expended	Authorized	Expended YTD
Recurring General	\$ 46,722,293	\$ 46,722,293	\$ 46,722,293	\$ 17,288,634
Non-Recurring General	\$ 2,664,802	\$ 1,806,030	\$	\$ 725,203
Federal	\$ 17,275,000	\$ 16,733,312	\$ 17,275,000	\$ 5,486,518
Other	\$ 23,395,568	\$ 14,845,149	\$ 23,395,568	\$ 5,455,919
Total Funds	\$ 90,057,663	\$ 80,106,784	\$ 87,392,861	\$ 28,956,274

Other Funds Fund Balance 6/30/20 - \$16,854,322

FY 21-22 Prioritized Budget Request Summary												
P200 - Clemson University - Public Service Activities												
BUDGET REQUESTS				FUNDING					FTEs			
Priority	Request Type (recurring, non-recurring, capital)	Request Title	Brief Description	General - Recurring	General - Nonrecurring	Other	Federal	Total	State	Other	Federal	Total
1	Recurring	Statewide Comprehensive Extension Program Support	The requested funds will provide needed resident county agent support for Clemson Cooperative Extension youth development and critical agriculture programs including, food safety and nutrition, commercial horticulture, agribusiness and emerging crops, and forage-based livestock.	\$ 1,127,250.00				\$ 1,127,250.00	8.00			8.00
2	Recurring	Critical Fruit and Vegetable Research	The requested funds will be used to hire scientists and research technicians with expertise to support research that addresses key challenges to maintaining and increasing competitiveness of SC fruit and vegetable growers.	\$ 1,448,400.00				\$ 1,448,400.00	12.00			12.00
3	Recurring	Statewide Forestry and Wildlife Extension	The requested funds will be used to hire and support resident faculty members at Clemson Research and Education Centers, Extension Associates and a Shooting Sports Coordinator. The funds will also be used to provide these personnel with technical support.	\$ 767,800.00				\$ 767,800.00	7.00			7.00
4	Recurring	Federal Authorization Increase	The increased Federal funding will be utilized by Clemson University PSA to support: Federal Research projects, as approved by the Clemson University Experiment Station and USDA, Extension service as authorized under the Smith-Lever Act, and grant funded work for Livestock-Poultry Health and Regulatory Services as approved by appropriate Federal Funding Agencies.				\$ 2,750,000.00	\$ 2,750,000.00			39.00	39.00
5	C - Capital	Research and Education Center Graduate Housing	If fully funded, the \$4M request will develop new housing and renovate and expand existing housing at each of the Research and Education Centers		\$ 4,000,000.00			\$ 4,000,000.00				0.00

6	C - Capital	Pee Dee Research and Education Center Greenhouses	If fully funded, the \$2M request will construct three new greenhouse facilities at the Pee Dee Research and Education Center (REC).		\$ 2,000,000.00			\$ 2,000,000.00				0.00
7	C - Capital	Sandhill REC Research and Extension Building Repair	If fully funded, the \$990,000 request will fund the renovation of a two-story building at Sandhill REC that was built in the 1920s.		\$ 990,000.00			\$ 990,000.00				0.00
8	C - Capital	Facility Renovation for Water Research	Clemson PSA is requesting \$2 million in funding to complete a renovation that will make possible overall building repairs and renovations, and feature new laboratory equipment for water quality analysis, water sensor development and remote sensor monitoring, and new computer equipment and monitors that will allow water researchers to conduct virtual meetings, on-site trainings, and webinars across the state and with southeast partnering universities.		\$ 2,000,000.00			\$ 2,000,000.00				0.00
9								\$ -				0.00
10								\$ -				0.00
11								\$ -				0.00
12								\$ -				0.00
13								\$ -				0.00
14								\$ -				0.00
15								\$ -				0.00
16								\$ -				0.00
17								\$ -				0.00
18								\$ -				0.00
19								\$ -				0.00
20								\$ -				0.00
TOTAL BUDGET REQUESTS				\$ 3,343,450	\$ 8,990,000	\$ -	\$ 2,750,000	\$ 15,083,450	27.00	0.00	39.00	66.00

Agency Name:	Clemson University - Public Service Activities		
Agency Code:	P200	Section:	45



Fiscal Year FY 2021-2022

Agency Budget Plan

FORM A - BUDGET PLAN SUMMARY

OPERATING REQUESTS <i>(FORM B1)</i>	For FY 2021-2022, my agency is (mark "X"):	
	<input checked="" type="checkbox"/>	Requesting General Fund Appropriations.
	<input checked="" type="checkbox"/>	Requesting Federal/Other Authorization.
	<input type="checkbox"/>	Not requesting any changes.
NON-RECURRING REQUESTS <i>(FORM B2)</i>	For FY 2021-2022, my agency is (mark "X"):	
	<input type="checkbox"/>	Requesting Non-Recurring Appropriations.
	<input type="checkbox"/>	Requesting Non-Recurring Federal/Other Authorization.
	<input checked="" type="checkbox"/>	Not requesting any changes.
CAPITAL REQUESTS <i>(FORM C)</i>	For FY 2021-2022, my agency is (mark "X"):	
	<input checked="" type="checkbox"/>	Requesting funding for Capital Projects.
	<input type="checkbox"/>	Not requesting any changes.
PROVISOS <i>(FORM D)</i>	For FY 2021-2022, my agency is (mark "X"):	
	<input type="checkbox"/>	Requesting a new proviso and/or substantive changes to existing provisos.
	<input type="checkbox"/>	Only requesting technical proviso changes (such as date references).
	<input checked="" type="checkbox"/>	Not requesting any proviso changes.

Please identify your agency's preferred contacts for this year's budget process.

	<u>Name</u>	<u>Phone</u>	<u>Email</u>
PRIMARY CONTACT: SECONDARY CONTACT:	Melissa Kelley	(864) 419-7264	melissk@clemson.edu
	George Askew	(864) 650-1466	gaskew@clemson.edu

I have reviewed and approved the enclosed FY 2021-2022 Agency Budget Plan, which is complete and accurate to the extent of my knowledge.

	<u>Agency Director</u>	<u>Board or Commission Chair</u>
SIGN/DATE:		
TYPE/PRINT NAME:		

This form must be signed by the agency head – not a delegate.

Agency Name:	Clemson University - Public Service Activities
Agency Code:	P200
Section:	45

BUDGET REQUESTS			FUNDING					FTES				
Priority	Request Type	Request Title	State	Federal	Earmarked	Restricted	Total	State	Federal	Earmarked	Restricted	Total
1	B1 - Recurring	Statewide Comprehensive Extension Program Support	1,127,250	0	0	0	1,127,250	8.00	0.00	0.00	0.00	8.00
2	B1 - Recurring	Critical Fruit and Vegetable Research	1,448,400	0	0	0	1,448,400	12.00	0.00	0.00	0.00	12.00
3	B1 - Recurring	Statewide Forestry and Wildlife Extension	767,800	0	0	0	767,800	7.00	0.00	0.00	0.00	7.00
4	B1 - Recurring	Federal Fund Authorization Increase	0	5,250,000	0	0	5,250,000	0.00	39.00	0.00	0.00	39.00
5	C - Capital	Research and Education Center Graduate Student Housing	4,000,000	0	0	0	4,000,000	0.00	0.00	0.00	0.00	0.00
6	C - Capital	Pee Dee Research and Education Center Greenhouse Construction	2,000,000	0	0	0	2,000,000	0.00	0.00	0.00	0.00	0.00
7	C - Capital	Sandhill REC Research and Extension Building Repairs	990,000	0	0	0	990,000	0.00	0.00	0.00	0.00	0.00
8	C - Capital	Facility Renovation for Water Research	2,000,000	0	0	0	2,000,000	0.00	0.00	0.00	0.00	0.00
TOTALS			12,333,450	5,250,000	0	0	17,583,450	27.00	39.00	0.00	0.00	66.00

Agency Name:	Clemson University - Public Service Activities		
Agency Code:	P200	Section:	45

FORM B1 – RECURRING OPERATING REQUEST

AGENCY PRIORITY	1
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Provide the Agency Priority Ranking from the Executive Summary.

TITLE	Statewide Comprehensive Extension Program Support
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Provide a brief, descriptive title for this request.

AMOUNT	<p>General: \$1,127,250</p> <p>Federal: \$0</p> <p>Other: \$0</p> <p>Total: \$1,127,250</p>
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What is the net change in requested appropriations for FY 2021-2022? This amount should correspond to the total for all funding sources on the Executive Summary.

NEW POSITIONS	8.00
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Please provide the total number of new positions needed for this request.

FACTORS ASSOCIATED WITH THE REQUEST	<p>Mark “X” for all that apply:</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/></td><td>Change in cost of providing current services to existing program audience</td></tr> <tr><td><input type="checkbox"/></td><td>Change in case load/enrollment under existing program guidelines</td></tr> <tr><td><input type="checkbox"/></td><td>Non-mandated change in eligibility/enrollment for existing program</td></tr> <tr><td><input checked="" type="checkbox"/></td><td>Non-mandated program change in service levels or areas</td></tr> <tr><td><input type="checkbox"/></td><td>Proposed establishment of a new program or initiative</td></tr> <tr><td><input type="checkbox"/></td><td>Loss of federal or other external financial support for existing program</td></tr> <tr><td><input type="checkbox"/></td><td>Exhaustion of fund balances previously used to support program</td></tr> <tr><td><input type="checkbox"/></td><td>IT Technology/Security related</td></tr> <tr><td><input type="checkbox"/></td><td>Consulted DTO during development</td></tr> <tr><td><input type="checkbox"/></td><td>Related to a Non-Recurring request – If so, Priority #</td></tr> </table>	<input type="checkbox"/>	Change in cost of providing current services to existing program audience	<input type="checkbox"/>	Change in case load/enrollment under existing program guidelines	<input type="checkbox"/>	Non-mandated change in eligibility/enrollment for existing program	<input checked="" type="checkbox"/>	Non-mandated program change in service levels or areas	<input type="checkbox"/>	Proposed establishment of a new program or initiative	<input type="checkbox"/>	Loss of federal or other external financial support for existing program	<input type="checkbox"/>	Exhaustion of fund balances previously used to support program	<input type="checkbox"/>	IT Technology/Security related	<input type="checkbox"/>	Consulted DTO during development	<input type="checkbox"/>	Related to a Non-Recurring request – If so, Priority #
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STATEWIDE ENTERPRISE STRATEGIC OBJECTIVES	<p>Mark “X” for primary applicable Statewide Enterprise Strategic Objective:</p> <table style="width: 100%;"> <tr><td><input checked="" type="checkbox"/></td><td>Education, Training, and Human Development</td></tr> <tr><td><input type="checkbox"/></td><td>Healthy and Safe Families</td></tr> <tr><td><input type="checkbox"/></td><td>Maintaining Safety, Integrity, and Security</td></tr> <tr><td><input type="checkbox"/></td><td>Public Infrastructure and Economic Development</td></tr> <tr><td><input type="checkbox"/></td><td>Government and Citizens</td></tr> </table>	<input checked="" type="checkbox"/>	Education, Training, and Human Development	<input type="checkbox"/>	Healthy and Safe Families	<input type="checkbox"/>	Maintaining Safety, Integrity, and Security	<input type="checkbox"/>	Public Infrastructure and Economic Development	<input type="checkbox"/>	Government and Citizens
<input checked="" type="checkbox"/>	Education, Training, and Human Development										
<input type="checkbox"/>	Healthy and Safe Families										
<input type="checkbox"/>	Maintaining Safety, Integrity, and Security										
<input type="checkbox"/>	Public Infrastructure and Economic Development										
<input type="checkbox"/>	Government and Citizens										

ACCOUNTABILITY OF FUNDS	<p>This funding request supports the following strategies as outlined in the FY18-19 Strategic Planning and Performance Measurement template of Clemson University – PSA’s Accountability Report:</p> <p>2.1 – Develop and implement agricultural production systems that are economically sustainable and environmentally sound (Agrisystems Productivity and Profitability).</p> <p>2.2 – Agribusiness and Agricultural Workforce Development (Agribusiness).</p> <p>2.3 – Conserve and protect all natural resources throughout South Carolina through education and implementation of best management practices (Environmental and Natural Resources Conservation).</p> <p>2.4 – Provide training on the safe preparation, production and handling of food while education citizens on wise nutritional choices that leads to improved health (Food Safety and Nutrition).</p> <p>2.5 – Empower youth to grow into healthy and productive members of society through hands-on, inclusive and mentored learning opportunities (Youth Development and Families).</p> <p>These objectives will be advanced by following our strategic plan for critical hires and by specifically adding an Extension faculty member for Forage-based Livestock, and</p>
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Agents and operating support for those agents in the areas of Sustainable Agriculture and Controlled Environment Agriculture, as well as a Student Organic Farm Manager. The Forage-based Livestock faculty request will enhance the productivity and profitability of the industry by focusing on efficient management practices optimized for success in the state's unique climate and pasture. The Sustainable Agriculture request will focus on providing research-based training and education to farmers of emerging and specialty agricultural crops. The Controlled Environment Agriculture request focuses on development of research and educational programs which support the state's emerging greenhouse production industry. The Student Organic Farm Manager request provides personnel and support to assist with production and process of this growing sector of South Carolina's agriculture economy.

The programs will be evaluated based on impacts reported through our annual Accountability Report to the state. Clemson University PSA is in constant contact with constituents, commodity boards, SC Farm Bureau and other advisory boards throughout the state. Our communication with these groups allows us to provide them with program updates and allows them the opportunity to provide feedback on these same programs. Our State Extension Advancement Council will also provide feedback on the effectiveness of the program.

What specific strategy, as outlined in the most recent Strategic Planning and Performance Measurement template of agency's accountability report, does this funding request support? How would this request advance that strategy? How would the use of these funds be evaluated?

RECIPIENTS OF FUNDS

The funds will be utilized by Clemson University PSA to fund positions and operating for Extension Agents statewide that will enhance our ability to serve counties throughout the state by increasing our expertise in critical areas throughout the state for food safety and nutrition, commercial horticulture, agribusiness and emerging crops, and forage-based livestock Agents in fulfillment of Cooperative Extension Service's strategic plan.

What individuals or entities would receive these funds (contractors, vendors, grantees, individual beneficiaries, etc.)? How would these funds be allocated – using an existing formula, through a competitive process, based upon predetermined eligibility criteria?

Justification:

Statewide Extension Program Support

The requested funds will provide needed resident county agent support for Clemson Cooperative Extension youth development and critical agriculture programs including, food safety and nutrition, commercial horticulture, agribusiness and emerging crops, and forage-based livestock.

Statewide Operating and Support Funds:

Clemson Cooperative Extension offices in all 46 South Carolina counties are open to the public for meetings with county agents who provide research-based information on youth development; agribusiness; agriculture; food, nutrition and health; and natural resources management. Our agents also provide workshops, programming and on-farm assistance requiring supporting materials and extensive travel. The requested will allow Clemson Cooperative Extension programming to keep pace with a South Carolina population growth.

Forage-based Livestock Extension Faculty (1): South Carolina's \$2.5 billion animal agriculture industry is under competitive pressure from out-of-state and international producers. South Carolina has the land and infrastructure to support increased forage-based livestock production by focusing on efficient management practices optimized for success in the state's unique climate and pastureland.

Sustainable Agriculture Extension Agents (3): The Emerging and Sustainable Agriculture Program will provide research-based training and education to farmers engaged in the production of emerging and specialty crops including vegetables, industrial hemp, small livestock, locally-grown foods, USDA certified organic operations.

Controlled Environment Agriculture Extension Agents (3): The South Carolina Department of Agriculture anticipates Controlled Environment Agriculture will expand in South Carolina driven by the demand for fresh, local, organic and sustainable vegetables, fruits, and herbs and efforts to reduce the need for open land irrigation. This area of agricultural production is a critical link between traditional agriculture and the state's steadily urbanizing population.

Student Organic Farm Manager (1): The Clemson Student Organic Farm is a fully

JUSTIFICATION OF REQUEST

operational 6-acre certified organic demonstration, research, and education facility on Clemson's campus that has achieved USDA Good Agricultural Practices certification governing food safety in the production and handling of produce.

Potential Offsets:

Our ability to expand Extension's service to the agriculture industry throughout the state is dependent upon this funding. There are no plans to cut existing programs from Extension to expand the offerings laid out in this request. The expansion is dependent upon additional funding.

Matching Funds:

N/A

Method of Calculation:

Cooperative Extension County Programs Personnel (\$1,127,250)

Salary and Fringe Benefits for the following new positions with fringe benefits calculated at an estimated rate of 45%:

- Forage-based Livestock Extension Faculty (1 FTE) – \$130,500
- Sustainable Agriculture Agent (3 FTE) – \$195,750
- Controlled Environment Agent (3 FTE) - \$195,750
- Student Organic Farm Manager (1 FTE) - \$65,250

Operating and travel funds to implement statewide programming - \$540,000

The above calculations are average starting salaries for the positions identified and may vary based on experience of the applicants for each position.

Funding Impact/Prioritization:

The Statewide Extension Program Support Initiative could be modified to defer portions of the program to future fiscal years if full funding is not provided with this request.

New Positions:

New positions are necessary for this project as existing vacancies under Clemson University PSA are either tied to posted positions or planned hires based on previously approved funding.

Please thoroughly explain the request to include the justification for funds, potential offsets, matching funds, and method of calculation. Please include any explanation of impact if funds are not received. If new positions have been requested, explain why existing vacancies are not sufficient.

Agency Name:	Clemson University - Public Service Activities		
Agency Code:	P200	Section:	45

FORM B1 – RECURRING OPERATING REQUEST

AGENCY PRIORITY	2
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Provide the Agency Priority Ranking from the Executive Summary.

TITLE	Critical Fruit and Vegetable Research
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Provide a brief, descriptive title for this request.

AMOUNT	<p>General: \$1,448,400</p> <p>Federal: \$0</p> <p>Other: \$0</p> <p>Total: \$1,448,400</p>
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What is the net change in requested appropriations for FY 2021-2022? This amount should correspond to the total for all funding sources on the Executive Summary.

NEW POSITIONS	12.00
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Please provide the total number of new positions needed for this request.

FACTORS ASSOCIATED WITH THE REQUEST	<p>Mark “X” for all that apply:</p> <table style="width: 100%;"> <tr><td><input type="checkbox"/></td><td>Change in cost of providing current services to existing program audience</td></tr> <tr><td><input type="checkbox"/></td><td>Change in case load/enrollment under existing program guidelines</td></tr> <tr><td><input type="checkbox"/></td><td>Non-mandated change in eligibility/enrollment for existing program</td></tr> <tr><td><input checked="" type="checkbox"/></td><td>Non-mandated program change in service levels or areas</td></tr> <tr><td><input type="checkbox"/></td><td>Proposed establishment of a new program or initiative</td></tr> <tr><td><input type="checkbox"/></td><td>Loss of federal or other external financial support for existing program</td></tr> <tr><td><input type="checkbox"/></td><td>Exhaustion of fund balances previously used to support program</td></tr> <tr><td><input type="checkbox"/></td><td>IT Technology/Security related</td></tr> <tr><td><input type="checkbox"/></td><td>Consulted DTO during development</td></tr> <tr><td><input type="checkbox"/></td><td>Related to a Non-Recurring request – If so, Priority #</td></tr> </table>	<input type="checkbox"/>	Change in cost of providing current services to existing program audience	<input type="checkbox"/>	Change in case load/enrollment under existing program guidelines	<input type="checkbox"/>	Non-mandated change in eligibility/enrollment for existing program	<input checked="" type="checkbox"/>	Non-mandated program change in service levels or areas	<input type="checkbox"/>	Proposed establishment of a new program or initiative	<input type="checkbox"/>	Loss of federal or other external financial support for existing program	<input type="checkbox"/>	Exhaustion of fund balances previously used to support program	<input type="checkbox"/>	IT Technology/Security related	<input type="checkbox"/>	Consulted DTO during development	<input type="checkbox"/>	Related to a Non-Recurring request – If so, Priority #
<input type="checkbox"/>	Change in cost of providing current services to existing program audience																				
<input type="checkbox"/>	Change in case load/enrollment under existing program guidelines																				
<input type="checkbox"/>	Non-mandated change in eligibility/enrollment for existing program																				
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<input type="checkbox"/>	Exhaustion of fund balances previously used to support program																				
<input type="checkbox"/>	IT Technology/Security related																				
<input type="checkbox"/>	Consulted DTO during development																				
<input type="checkbox"/>	Related to a Non-Recurring request – If so, Priority #																				

STATEWIDE ENTERPRISE STRATEGIC OBJECTIVES	<p>Mark “X” for primary applicable Statewide Enterprise Strategic Objective:</p> <table style="width: 100%;"> <tr><td><input checked="" type="checkbox"/></td><td>Education, Training, and Human Development</td></tr> <tr><td><input type="checkbox"/></td><td>Healthy and Safe Families</td></tr> <tr><td><input type="checkbox"/></td><td>Maintaining Safety, Integrity, and Security</td></tr> <tr><td><input type="checkbox"/></td><td>Public Infrastructure and Economic Development</td></tr> <tr><td><input type="checkbox"/></td><td>Government and Citizens</td></tr> </table>	<input checked="" type="checkbox"/>	Education, Training, and Human Development	<input type="checkbox"/>	Healthy and Safe Families	<input type="checkbox"/>	Maintaining Safety, Integrity, and Security	<input type="checkbox"/>	Public Infrastructure and Economic Development	<input type="checkbox"/>	Government and Citizens
<input checked="" type="checkbox"/>	Education, Training, and Human Development										
<input type="checkbox"/>	Healthy and Safe Families										
<input type="checkbox"/>	Maintaining Safety, Integrity, and Security										
<input type="checkbox"/>	Public Infrastructure and Economic Development										
<input type="checkbox"/>	Government and Citizens										

ACCOUNTABILITY OF FUNDS	<p>This funding request supports the following strategies as outlined in the FY18-19 Strategic Planning and Performance Measurement template of Clemson University – PSA’s Accountability Report:</p> <p>1.1 – Enhance research prominence in focus areas that maintain and support the growth of South Carolina’s agriculture and forest industries.</p> <p>The requested funding advances the above listed objectives expanding our faculty and technical expertise to support research that addresses key challenges to maintaining and increasing competitiveness of SC fruit and vegetable growers.</p> <p>The program will be evaluated based on impacts reported through our annual Accountability Report to the state. Clemson University PSA is in constant contact with constituents, commodity boards, SC Farm Bureau and other advisory boards throughout the state. Our communication with these groups allows us to provide them with program updates and allows them the opportunity to provide feedback on these same programs.</p>
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What specific strategy, as outlined in the most recent Strategic Planning and Performance Measurement template of agency’s accountability report, does this funding request support? How would this request advance that strategy? How would the use of these funds be evaluated?

RECIPIENTS OF FUNDS

The funds will be utilized Clemson University PSA Experiment Station to fund positions and operating for critical faculty hires as well as for crop research technicians that provide technical support to our research programs at our research and education centers (Coastal, Edisto, and Pee Dee).

What individuals or entities would receive these funds (contractors, vendors, grantees, individual beneficiaries, etc.)? How would these funds be allocated – using an existing formula, through a competitive process, based upon predetermined eligibility criteria?

JUSTIFICATION OF REQUEST

Justification:

Critical Fruit and Vegetable Research

Scientists at Clemson's six Research and Education Centers (RECs) are driven to keep South Carolina farmers competitive on a national and global scale through research critical to maintaining economically viable and efficient crop production. Advancing the state's fruit and vegetable economy requires agricultural scientists committed to conducting innovative research to meet fluctuating market demands and constituent needs. Clemson agricultural scientists are also the foundation of successful applications for research grants and contracts with the USDA, state commodity boards, Environmental Protection Agency and other key groups.

The requested funds will be used to hire scientists and research technicians with expertise to support research that addresses key challenges to maintaining and increasing competitiveness of SC fruit and vegetable growers.

Fruit and Vegetable production: Clemson scientists will strengthen the state's specialty crop industry by improving yields through disease outbreak prevention and mitigation, and by developing improved cultural practices.

- Plant Disease Specialist: Address threats from crop diseases
- Vegetable Production Specialist: Improve production practices

Fruit and Vegetable safety and profitability: Clemson scientists will conduct research to protect food safety through each step in the food production and processing chain while developing marketing strategies and aiding in the development of crop policy.

- Post-harvest Specialist: Develop innovations in mechanization and post-harvest technologies
- Policy and Marketing Specialist: Improve profitability through crop policy and marketing

Fruit and Vegetable improvement and pest management: Strengthening scientific expertise in these areas will allow Clemson scientists to develop crop varieties optimized for South Carolina and Southeastern growing conditions and pest threats.

- Plant Breeder: Improve fruit and vegetable crop characteristics
- Plant Pest Specialist: Improve management of insect pests on fruits and vegetables

Six Technicians (one per researcher): Support research activities and increase research capacity.

Potential Offsets

The funding requested would be an expansion to our existing research programming within Clemson University PSA Programs. Without these additional funds, Clemson would not be able to add the technical expertise needed in the areas of agricultural engineering, agribusiness, livestock production, forest productivity, nutrition, safe food packaging, and crop health.

Matching Funds:

N/A

Method of Calculation:

Critical Fruit and Vegetable Research (\$1,448,400)

Salary and Fringe Benefits for the following new positions with fringe benefits calculated at an estimated rate of 45%:

- Assistant Professors (6 FTE) - \$783,000

- Crop Research Technicians (6 FTE) - \$365,400
- Operating and Travel - \$300,000

The above calculations are average starting salaries for the positions identified and may vary based on experience of the applicants for each position.

Funding Impact/Prioritization:

The Critical Fruit and Vegetable Research Initiative could be modified to defer portions of the program to future fiscal years if full funding is not provided with this request.

New Positions:

New positions are necessary for this project as existing vacancies under Clemson University – PSA are either tied to posted positions or planned hires based on previously approved funding.

Please thoroughly explain the request to include the justification for funds, potential offsets, matching funds, and method of calculation. Please include any explanation of impact if funds are not received. If new positions have been requested, explain why existing vacancies are not sufficient.

Agency Name:	Clemson University - Public Service Activities		
Agency Code:	P200	Section:	45

FORM B1 – RECURRING OPERATING REQUEST

AGENCY PRIORITY	3
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Provide the Agency Priority Ranking from the Executive Summary.

TITLE	Statewide Forestry and Wildlife Extension
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Provide a brief, descriptive title for this request.

AMOUNT	<p>General: \$767,800</p> <p>Federal: \$0</p> <p>Other: \$0</p> <p>Total: \$767,800</p>
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What is the net change in requested appropriations for FY 2021-2022? This amount should correspond to the total for all funding sources on the Executive Summary.

NEW POSITIONS	7.00
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Please provide the total number of new positions needed for this request.

FACTORS ASSOCIATED WITH THE REQUEST	Mark “X” for all that apply:	
	<input type="checkbox"/>	Change in cost of providing current services to existing program audience
	<input type="checkbox"/>	Change in case load/enrollment under existing program guidelines
	<input type="checkbox"/>	Non-mandated change in eligibility/enrollment for existing program
	<input checked="" type="checkbox"/>	Non-mandated program change in service levels or areas
	<input type="checkbox"/>	Proposed establishment of a new program or initiative
	<input type="checkbox"/>	Loss of federal or other external financial support for existing program
	<input type="checkbox"/>	Exhaustion of fund balances previously used to support program
	<input type="checkbox"/>	IT Technology/Security related
	<input type="checkbox"/>	Consulted DTO during development
<input type="checkbox"/>	Related to a Non-Recurring request – If so, Priority #	

STATEWIDE ENTERPRISE STRATEGIC OBJECTIVES	Mark “X” for primary applicable Statewide Enterprise Strategic Objective:	
	<input checked="" type="checkbox"/>	Education, Training, and Human Development
	<input type="checkbox"/>	Healthy and Safe Families
	<input type="checkbox"/>	Maintaining Safety, Integrity, and Security
	<input type="checkbox"/>	Public Infrastructure and Economic Development
	<input type="checkbox"/>	Government and Citizens

ACCOUNTABILITY OF FUNDS	<p>This funding request supports the following strategies as outlined in the FY18-19 Strategic Planning and Performance Measurement template of Clemson University – PSA’s Accountability Report:</p> <p>2.1 – Develop and implement agricultural production systems that are economically sustainable and environmentally sound (Agrisystems Productivity and Profitability).</p> <p>2.3 – Conserve and protect all natural resources throughout South Carolina through education and implementation of best management practices (Environmental and Natural Resources Conservation).</p> <p>2.5 – Empower youth to grow into healthy and productive members of society through hands-on, inclusive and mentored learning opportunities (Youth Development and Families).</p> <p>These objectives will be advanced by following our strategic plan for critical hires and by specifically adding two Extension faculty members Natural Resources Youth Programs and Wildlife Management, and Extension Associates for statewide programs including Wildlife Habitat Education Program Coordinator, 4-H Shooting Sports Coordinator and a Master & Junior Master Naturalist Program Coordinator, as well as two technical support positions for the faculty and operating support. The Natural Resources Youth Program Director will broaden the scope and strengthen the capacity of Clemson PSA’s natural resources youth programs. The Wildlife Management faculty</p>
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member will strengthen our ability to assist constituents in the development of best management practices for wildlife problems as well as how to best capitalize on the economic impacts of hunting and fishing in South Carolina.

The programs will be evaluated based on impacts reported through our annual Accountability Report to the state. Clemson University PSA is in constant contact with constituents, commodity boards, SC Farm Bureau and other advisory boards throughout the state. Our communication with these groups allows us to provide them with program updates and allows them the opportunity to provide feedback on these same programs. Our State Extension Advancement Council will also provide feedback on the effectiveness of the program.

What specific strategy, as outlined in the most recent Strategic Planning and Performance Measurement template of agency's accountability report, does this funding request support? How would this request advance that strategy? How would the use of these funds be evaluated?

RECIPIENTS OF FUNDS

The funds will be utilized by Clemson University PSA to fund positions and operating for faculty, Extension associates and technical support that will enhance our ability to serve counties throughout the state by increasing our expertise in critical areas throughout the state and in fulfillment of Cooperative Extension Service's strategic plan.

What individuals or entities would receive these funds (contractors, vendors, grantees, individual beneficiaries, etc.)? How would these funds be allocated – using an existing formula, through a competitive process, based upon predetermined eligibility criteria?

JUSTIFICATION OF REQUEST

Justification:

Statewide Forestry and Wildlife Extension

According to a Clemson University study published in 2016, natural resource-based sectors contribute \$33.4 billion in economic activity annually to the South Carolina economy and are responsible for 218,719 jobs. Forests cover 13 million acres, including 7.2 million acres of private non-corporate forestland owned and managed by 207,000 family forester owners.

South Carolina's growing population and increased urbanization and the sustainable management of these natural resources requires robust research and an effective Extension programs designed to impart the latest science-based information to forestland owners across all regions of the state. Clemson PSA is seeking funding in the following specific focus areas:

Natural Resources Youth Program Director: Clemson Cooperative Extension's 4-H Natural Resources and Environment Education Programs engage approximately 35,000 youth annually in methods for confronting some of the world's most pressing problems, developing a love and respect for nature, becoming stewards of the environment and understanding the science behind the issues. The Natural Resources Youth Program Director will broaden the scope and strengthen the capacity of Clemson PSA's natural resources youth programs.

Wildlife Management: Wildlife issues in the state have expanded beyond traditional hunting and fishing management to include human-wildlife interactions, invasive species, and economic development. Clemson PSA will expand its expertise to strengthen its ability to assist constituents in confronting wildlife problems, capitalizing on the economic impacts of hunting, fishing and tackling challenges associated with the sustainable management of profitable recreational hunting game such as deer, turkeys and quail.

Specifically, funds will be used to hire and support resident faculty members at Clemson Research and Education Centers, Extension Associates and a Shooting Sports Coordinator. The funds will also be used to provide these personnel with technical support.

Potential Offsets:

Our ability to expand Extension's service to the agriculture industry throughout the state is dependent upon this funding. There are no plans to cut existing programs from Extension to expand the offerings laid out in this request. The expansion is dependent upon additional funding.

Matching Funds:

N/A

Method of Calculation:**Statewide Forestry and Wildlife Extension (\$767,800)**

Salary and Fringe Benefits for the following new positions with fringe benefits calculated at an estimated rate of 45%:

- Director of Natural Resources Extension Programs (1 FTE) – \$130,500
- Wildlife Expert (1 FTE) – \$130,500
- Extension Associates (3 FTE) - \$261,000
- Technical Support (2 FTE) - \$121,800

Operating and travel funds to implement statewide programming - \$124,000

The above calculations are average starting salaries for the positions identified and may vary based on experience of the applicants for each position.

Funding Impact/Prioritization:

The Statewide Forestry and Wildlife Extension Initiative could be modified to defer portions of the program to future fiscal years if full funding is not provided with this request.

New Positions:

New positions are necessary for this project as existing vacancies under Clemson University PSA are either tied to posted positions or planned hires based on previously approved funding.

Please thoroughly explain the request to include the justification for funds, potential offsets, matching funds, and method of calculation. Please include any explanation of impact if funds are not received. If new positions have been requested, explain why existing vacancies are not sufficient.

Agency Name:	Clemson University - Public Service Activities		
Agency Code:	P200	Section:	45

FORM B1 – RECURRING OPERATING REQUEST

AGENCY PRIORITY	4
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Provide the Agency Priority Ranking from the Executive Summary.

TITLE	Federal Fund Authorization Increase
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Provide a brief, descriptive title for this request.

AMOUNT	<p>General: \$0</p> <p>Federal: \$5,250,000</p> <p>Other: \$0</p> <p>Total: \$5,250,000</p>
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What is the net change in requested appropriations for FY 2021-2022? This amount should correspond to the total for all funding sources on the Executive Summary.

NEW POSITIONS	39.00
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Please provide the total number of new positions needed for this request.

FACTORS ASSOCIATED WITH THE REQUEST	Mark “X” for all that apply:	
	<input type="checkbox"/>	Change in cost of providing current services to existing program audience
	<input checked="" type="checkbox"/>	Change in case load/enrollment under existing program guidelines
	<input type="checkbox"/>	Non-mandated change in eligibility/enrollment for existing program
	<input checked="" type="checkbox"/>	Non-mandated program change in service levels or areas
	<input type="checkbox"/>	Proposed establishment of a new program or initiative
	<input type="checkbox"/>	Loss of federal or other external financial support for existing program
	<input type="checkbox"/>	Exhaustion of fund balances previously used to support program
	<input type="checkbox"/>	IT Technology/Security related
	<input type="checkbox"/>	Consulted DTO during development
<input type="checkbox"/>	Related to a Non-Recurring request – If so, Priority #	

STATEWIDE ENTERPRISE STRATEGIC OBJECTIVES	Mark “X” for primary applicable Statewide Enterprise Strategic Objective:	
	<input checked="" type="checkbox"/>	Education, Training, and Human Development
	<input type="checkbox"/>	Healthy and Safe Families
	<input type="checkbox"/>	Maintaining Safety, Integrity, and Security
	<input type="checkbox"/>	Public Infrastructure and Economic Development
	<input type="checkbox"/>	Government and Citizens

ACCOUNTABILITY OF FUNDS	<p>The funding will advance all Clemson University PSA objectives under our Strategic Planning for Goals 1 - 4 as this request covers increases to our Research, Extension, Livestock-Poultry Health and Regulatory Services programs and is based on increased awards or availability of federal funds to each program.</p>
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What specific strategy, as outlined in the most recent Strategic Planning and Performance Measurement template of agency’s accountability report, does this funding request support? How would this request advance that strategy? How would the use of these funds be evaluated?

RECIPIENTS OF	<p>The increased Federal funding will be utilized by Clemson University PSA to support: Federal Research projects, as approved by the Clemson University Experiment Station and USDA, Extension service as authorized under the Smith-Lever Act, and grant</p>
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FUNDS

funded work for Livestock-Poultry Health and Regulatory Services as approved by appropriate Federal Funding Agencies.

What individuals or entities would receive these funds (contractors, vendors, grantees, individual beneficiaries, etc.)? How would these funds be allocated – using an existing formula, through a competitive process, based upon predetermined eligibility criteria?

JUSTIFICATION OF REQUEST

Justification:

The request increases authorization related to Federal funding in three program areas for Clemson University PSA:

- Livestock-Poultry Health - the increase is requested based on the level of anticipated awards and expenditures for the FY21 budget cycle.
- Agricultural Research – the increase is requested based on availability of Federal Capacity Funding for Hatch, McIntire-Stennis and Animal Health Funding.
- Cooperative Extension Service – The increase is requested based on availability of Federal Capacity Funding awards for Smith-Lever, Expanded Food & Nutrition, and Renewable Resources Extension Act Funding.
- Regulatory Services - the increase is requested based on the level of anticipated awards and expenditures for the FY21 budget cycle.

Potential Offsets:

N/A – This increase is based on additional funding available to the agency through federal awards for existing programs.

Matching Funds:

Federal Capacity funds for Hatch and Smith Lever Acts require matching funds on a one-to-one basis. These match requirements can be covered with existing state funds. Some Federal grants for Livestock-Poultry Health and Regulatory Services require match. Each program has its own regulations, the match requirements can be met with existing resources.

Method of Calculation:

For all programs, current and pending federal grant awards were compared with current authorization levels, and the increases were requested to match authorization with anticipated award amounts or availability of Federal Carryover funds.

Program	Current Authorization	Pending Awards/ Fund Availability	Requested Increase
1. Regulatory Services	\$ 1,091,249	\$ 3,391,249	\$ 2,300,000
II. Livestock-Poultry Health	\$ 2,095,904	\$ 2,205,904	\$ 110,000
III. Agricultural Research	\$ 4,576,269	\$ 5,326,269	\$ 750,000 (9 FTE)
IV. Cooperative Ext Svc	\$ 6,369,969	\$ 7,664,969	\$ 1,295,000 (30 FTE)
V. State Employer Contrib	\$ 3,141,609	\$ 3,936,609	\$ 795,000
	\$ 17,275,000	\$ 22,525,000	\$ 5,250,000

Funding Impact/Prioritization:

N/A

New Positions:

New positions are necessary for this project as existing vacancies under Clemson University PSA are either tied to posted positions or planned hires based on previously approved funding.

Please thoroughly explain the request to include the justification for funds, potential offsets, matching funds, and method of calculation. Please include any explanation of impact if funds are not received. If new positions have been requested, explain why existing vacancies are not sufficient.

Agency Name:	Clemson University - Public Service Activities		
Agency Code:	P200	Section:	45

FORM C – CAPITAL REQUEST

AGENCY PRIORITY	5
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Provide the Agency Priority Ranking from the Executive Summary.

TITLE	Research and Education Center Graduate Student Housing
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Provide a brief, descriptive title for this request.

AMOUNT	\$4,000,000
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How much is requested for this project in FY 2021-2022? This amount should correspond to the total for all funding sources on the Executive Summary.

CPIP PRIORITY	<p>CPIP Plan Year FY2021-2022, Priority 1 of 4</p> <p>First included in the FY14 CPIP</p> <p><u>This initiative is reliant upon support from additional state funding.</u></p>
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Identify the project's CPIP plan year and priority number, along with the first year in which the project was included in the agency's CPIP. If not included in the agency's CPIP, please provide an explanation. If the project involves a request for appropriated state funding, briefly describe the agency's contingency plan in the event that state funding is not made available in the amount requested.

OTHER APPROVALS	<p>This project has been approved as a priority by the State Budget Planning Committee for the university. If funding is allocated, the university will proceed with obtaining additional approvals to renovate the facility, both internally and with the proper state government authorities.</p>
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What approvals have already been obtained? Are there additional approvals that must be secured in order for the project to succeed? (Institutional board, JBRC, SFAA, etc.)

LONG-TERM PLANNING AND SUSTAINABILITY	<p>This is a new request for funding. If fully funded, the \$4M request will develop new housing and renovate and expand existing housing at each of the Research and Education Centers. No future request for capital and/or operating funding is planned for relative to these proposed improvements. Savings will be realized through reduction in cost of rentals for housing for visiting scientists and students, as well as improved efficiencies realized in housing that will be renovated. These savings will impact both state appropriated and generated revenues. The useful life of these improvements is approximately 40 years.</p>
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What other funds have already been invested in this project (source/type, amount, timeframe)? Will other capital and/or operating funds for this project be requested in the future? If so, how much, and in which fiscal years? Has a source for those funds been identified/secured? What is the agency's expectation with regard to additional annual costs or savings associated with this capital improvement? What source of funds will be impacted by those costs or savings? What is the expected useful life of the capital improvement?

	<p>Clemson PSA's six Research and Education Centers (RECs) are home to teams of scientists performing transformative research that helps build the South Carolina agribusiness economy, conserve the state's environment and natural resources, and improve the nutritional quality and safety of the food supply. Clemson PSA has added 23 scientist positions over the last five years with the mission to help South Carolina farmers provide safe, affordable, and nutritious food for the state's citizens and stay competitive on a global scale. In order to fulfill its research mission, Clemson PSA must add talented and accomplished graduate students, but housing for these graduate students is insufficient. The ability to add graduate students to study and conduct research at off-campus RECs will expand the capability of our scientists to conduct research in all regions of the state and provide the state's agriculture and natural resource industry with Master's, Ph.D. and post-doctoral students trained to help address agricultural and natural resources problems facing South Carolina. The requested funding will allow Clemson PSA to add new housing for students and visiting scientists and renovate and expand existing housing that is currently available at each of the RECs across South Carolina. Construction of Additional Facilities\$2 millionRepair and Renovate Existing Facilities\$2</p>
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SUMMARY

Provide a summary of the project and explain why it is necessary. Please refer to the budget guidelines for appropriate questions and thoroughly answer all related items.

Agency Name:	Clemson University - Public Service Activities		
Agency Code:	P200	Section:	45

FORM C – CAPITAL REQUEST

AGENCY PRIORITY	6
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Provide the Agency Priority Ranking from the Executive Summary.

TITLE	Pee Dee Research and Education Center Greenhouse Construction
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Provide a brief, descriptive title for this request.

AMOUNT	\$2,000,000
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How much is requested for this project in FY 2021-2022? This amount should correspond to the total for all funding sources on the Executive Summary.

CPIP PRIORITY	<p>CPIP Plan Year FY2021-2022, Priority 2 of 4</p> <p>First included in the FY19 CPIP</p> <p><u>This initiative is reliant upon support from additional state funding.</u></p>
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Identify the project's CPIP plan year and priority number, along with the first year in which the project was included in the agency's CPIP. If not included in the agency's CPIP, please provide an explanation. If the project involves a request for appropriated state funding, briefly describe the agency's contingency plan in the event that state funding is not made available in the amount requested.

OTHER APPROVALS	<p>This project has been approved as a priority by the State Budget Planning Committee for the university. If funding is allocated, the university will proceed with obtaining additional approvals to renovate the facility, both internally and with the proper state government authorities</p>
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What approvals have already been obtained? Are there additional approvals that must be secured in order for the project to succeed? (Institutional board, JBRC, SFAA, etc.)

LONG-TERM PLANNING AND SUSTAINABILITY	<p>This is a new request for funding. If fully funded, the \$2M request will construct three new greenhouse facilities at the Pee Dee Research and Education Center (REC). No future request for capital and/or operating funding is planned for relative to these proposed improvements. Annual operating costs for the new facilities is estimated at \$25,000. The REC will use existing operating dollars to cover the anticipated costs. The useful life of these improvements is approximately 40 years.</p>
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What other funds have already been invested in this project (source/type, amount, timeframe)? Will other capital and/or operating funds for this project be requested in the future? If so, how much, and in which fiscal years? Has a source for those funds been identified/secured? What is the agency's expectation with regard to additional annual costs or savings associated with this capital improvement? What source of funds will be impacted by those costs or savings? What is the expected useful life of the capital improvement?

	<p>Clemson's Pee Dee Research and Education Center (PDREC) is one of six RECs strategically located in each of South Carolina's unique climate and soil regions devoted to agricultural and natural resources research designed to support the state's agribusiness and forestry economies. PDREC is home to Clemson's Advanced Plant Technology Program, which conducts high-tech research focused on creating new row crop cultivars with genetic traits optimized for South Carolina and Southeast growing conditions. These optimized plants are drought and pest tolerant and allow farmers to maximize crop yields while reducing inputs such as water, fertilizer and pesticides. Research at Clemson's PDREC has resulted in a gluten-free wheat that will reduce sickness caused by gluten intolerance, a soybean cultivar that can be grown in extreme heat and drought, and other genetic advancements that will increase row crop yields and allow South Carolina farmers to sell their crops in new markets. Existing greenhouse facilities at PDREC have been retrofitted but are still not suited for summer use, resulting in delayed research results in bringing optimized crops to the marketplace. The requested funds will be used to build three research quality greenhouse facilities specifically designed to support Clemson's plant breeding programs and allow Clemson University scientists to continue making plant</p>
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technology breakthroughs.

SUMMARY

Provide a summary of the project and explain why it is necessary. Please refer to the budget guidelines for appropriate questions and thoroughly answer all related items.

Agency Name:	Clemson University - Public Service Activities		
Agency Code:	P200	Section:	45

FORM C – CAPITAL REQUEST

AGENCY PRIORITY	7
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Provide the Agency Priority Ranking from the Executive Summary.

TITLE	Sandhill REC Research and Extension Building Repairs
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Provide a brief, descriptive title for this request.

AMOUNT	\$990,000
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How much is requested for this project in FY 2021-2022? This amount should correspond to the total for all funding sources on the Executive Summary.

CPIP PRIORITY	CPIP Plan Year FY2021-2022, Priority 3 of 4 First included in the FY21 CPIP <u>This initiative is reliant upon support from additional state funding.</u>
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Identify the project's CPIP plan year and priority number, along with the first year in which the project was included in the agency's CPIP. If not included in the agency's CPIP, please provide an explanation. If the project involves a request for appropriated state funding, briefly describe the agency's contingency plan in the event that state funding is not made available in the amount requested.

OTHER APPROVALS	This project has been approved as a priority by the State Budget Planning Committee for the university. If funding is allocated, the university will proceed with obtaining additional approvals to renovate the facility, both internally and with the proper state government authorities.
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What approvals have already been obtained? Are there additional approvals that must be secured in order for the project to succeed? (Institutional board, JBRC, SFAA, etc.)

LONG-TERM PLANNING AND SUSTAINABILITY	The building targeted for renovation at Sandhill Research and Education Center was originally built in the 1920s. There have been no major repairs to the building in the last 20 years. We anticipate minimal change in facility costs for these improvements. There are no other planned requests for funding if the initial request is fully funded. The expected useful life for the capital improvements is 40 years.
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What other funds have already been invested in this project (source/type, amount, timeframe)? Will other capital and/or operating funds for this project be requested in the future? If so, how much, and in which fiscal years? Has a source for those funds been identified/secured? What is the agency's expectation with regard to additional annual costs or savings associated with this capital improvement? What source of funds will be impacted by those costs or savings? What is the expected useful life of the capital improvement?

	Repair of 1920s Two-story Building for Research and Extension OfficesSandhill Research in Education Center (REC) in Columbia, was established in 1926 to conduct agricultural research in the sandhill region of the state. Today, research efforts at the REC have evolved and expanded to continue to support the state's \$41.7 billion agribusiness industry. Sandhill REC is also home to the growing Agribusiness Extension Program Team, focusing on farm risk management, commodity marketing, agriculture policy, local food systems development, small business planning and agritourism. This request is to fund needed upgrades and repairs to one of the original 1920s buildings. As Clemson has achieved better integration of our research, Extension and regulatory activities at Sandhill REC, we are in need of additional office space. This historic building is strategically located and would be functional for many decades after this investment. Details and estimated costs of the required upgrades and repairs are listed below.Elevator\$ 180,000HVAC\$ 138,000Exterior repairs\$ 240,000Main floor repairs\$ 235,000Lower level repairs\$ 197,000Total \$ 990,000
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SUMMARY

Provide a summary of the project and explain why it is necessary. Please refer to the budget guidelines for appropriate questions and thoroughly answer all related items.

Agency Name:	Clemson University - Public Service Activities		
Agency Code:	P200	Section:	45

FORM C – CAPITAL REQUEST

AGENCY PRIORITY	8
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Provide the Agency Priority Ranking from the Executive Summary.

TITLE	Facility Renovation for Water Research
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Provide a brief, descriptive title for this request.

AMOUNT	\$2,000,000
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How much is requested for this project in FY 2021-2022? This amount should correspond to the total for all funding sources on the Executive Summary.

CPIP PRIORITY	<p>CPIP Plan Year FY2020-2021, Priority 4 of 4</p> <p>First included in the FY17 CPIP</p> <p><u>This initiative is reliant upon support from additional state funding.</u></p>
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Identify the project's CPIP plan year and priority number, along with the first year in which the project was included in the agency's CPIP. If not included in the agency's CPIP, please provide an explanation. If the project involves a request for appropriated state funding, briefly describe the agency's contingency plan in the event that state funding is not made available in the amount requested.

OTHER APPROVALS	<p>This project has been approved as a priority by the State Budget Planning Committee for the university. If funding is allocated, the university will proceed with obtaining additional approvals to renovate the facility, both internally and with the proper state government authorities.</p>
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What approvals have already been obtained? Are there additional approvals that must be secured in order for the project to succeed? (Institutional board, JBRC, SFAA, etc.)

LONG-TERM PLANNING AND SUSTAINABILITY	<p>Clemson University PSA invested approximately \$330,000 in FY18 into initial work on renovating the front office portion of the building, including replacing chillers for the HVAC system and ductwork throughout the building, creating new meeting space, replacing carpet and furniture, ceiling tiles and flooring, and adding video conferencing capabilities. In FY19 Clemson University PSA was allocated \$3M to begin the renovation process, with an additional \$2M added in FY20. An A-1 for initial \$3M was approved 8/2/19 to renovate the central section of the building 12,500 square feet. The planned renovations with the newly allocated funding include the upfit of office and lab spaces and new lab equipment for water quality analysis and water sensors and monitoring. The \$2M allocated in FY20 will be applied to plans to renovate the back section of the building for Graduate students work space and research and storage areas. The project is designed to be conducted in phases.</p> <p>We anticipate minimal change in facility costs for these improvements. There are no other planned requests for funding if the initial request is fully funded. The expected useful life for the capital improvements is 40 years.</p>
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What other funds have already been invested in this project (source/type, amount, timeframe)? Will other capital and/or operating funds for this project be requested in the future? If so, how much, and in which fiscal years? Has a source for those funds been identified/secured? What is the agency's expectation with regard to additional annual costs or savings associated with this capital improvement? What source of funds will be impacted by those costs or savings? What is the expected useful life of the capital improvement?

	<p>Clemson University's South Carolina Water Resources Center (SCWRC) is a multi-disciplinary, cross-college research organization focusing its research efforts on watershed study and management; water policy; remote water sensing, image analysis and technological innovation; water resources and population growth; and emerging water problems. Through its work, the SCWRC provides state agencies with information they need to make unbiased, research-based decisions about South Carolina water resources policy. In FY18, Clemson PSA invested approximately \$330,000 to begin converting a near-campus building that formerly housed environmental toxicology research into a solid programmatic home for the SCWRC. The building includes laboratory and meeting space and features an ideal near-campus location for research, monitoring, analysis, and technical instruction. Renovations included replacing air conditioning units and adding meeting space and video conferencing technology. In FY2018-19, Clemson PSA requested \$7 million in one-time state funding and was allocated \$3 million, with an additional \$2 million in one-time</p>
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SUMMARY

state funding being allocated in FY19-20. Clemson PSA is requesting \$2 million in funding to complete a renovation that will make possible overall building repairs and renovations, and feature new laboratory equipment for water quality analysis, water sensor development and remote sensor monitoring, and new computer equipment and monitors that will allow water researchers to conduct virtual meetings, on-site trainings, and webinars across the state and with southeast partnering universities. Once renovated, the expanding team of water resources experts will be based in this building to conduct analytical water-related research, and provide research-based natural resources management outreach, instruction, and demonstration. The building's proximity to campus and research space will unify staff and create capacity for more collaborative research supported by grants and private funding.

Provide a summary of the project and explain why it is necessary. Please refer to the budget guidelines for appropriate questions and thoroughly answer all related items.

Agency Name:	Clemson University - Public Service Activities		
Agency Code:	P200	Section:	45

FORM E – AGENCY COST SAVINGS AND GENERAL FUND REDUCTION CONTINGENCY PLAN

TITLE	Agency Cost Savings and General Fund Reduction Contingency Plan
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AMOUNT	\$1,401,669 <i>What is the General Fund 3% reduction amount? This amount should correspond to the reduction spreadsheet prepared by EBO.</i>
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ASSOCIATED FTE REDUCTIONS	We would plan to reduce our FTEs by 5 positions, should this reduction take place. <i>How many FTEs would be reduced in association with this General Fund reduction?</i>
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PROGRAM / ACTIVITY IMPACT	<p>The reduction could impact programs/activities within four of Clemson PSA's major divisions and programs:</p> <p>Livestock & Poultry Health *(request to hold harmless)</p> <p>Regulatory & Public Service</p> <p>Agricultural Research</p> <p>Cooperative Extension Service</p> <p><i>What programs or activities are supported by the General Funds identified?</i></p>
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SUMMARY	<p>Impact on Livestock-Poultry Health: We request that our Livestock-Poultry Health division be held harmless in the event of a 3% budget reduction due to the unit's importance in ensuring a safe food supply for South Carolina. (Portion requested to be held harmless \$131,900)</p> <p>Impact on Regulatory and Public Services: Our ability to provide our current degree of inspections, statewide, would be at risk and may impact our ability to ensure quality control in commercial plant materials and fertilizer production. The Division of Regulatory and Public Service Programs will manage the reduction of \$38,939 by withholding newly allocated operating funds for the Organic Certification and Invasive Pest Programs. The potential impacts include a reduction in travel for training and other program specific needs, a delay in purchasing new equipment and replacing state vehicles necessary to meet program mandates and goals.</p> <p>Impact on Agricultural Research: Our ability to maintain the primary operational functions of our research and education centers would be at risk which would result in a diminished capacity to conduct field and laboratory research and diminish our competitiveness in acquiring research grants and contracts. Specifically, the reduction of \$574,203 would be taken from operating dollars at Research and Education Centers around the state, reducing the ability of personnel to travel and impacting the number of public events (field days, workshops, demonstrations, etc.) that could be held at the Centers.</p> <p>Impact on Cooperative Extension Service: We would primarily reduce operating and travel allocations to non-county operations primarily. These reductions would diminish our number of contacts, workshops and troubleshooting on the state's farms and forests. Additionally, we would reduce our temporary faculty and staff and re-evaluate faculty Extension appointments of existing faculty, along with re-examining the administrative structure of Extension to produce salary savings. The plan for this reduction (\$656,626) would include a \$300,626 reduction to operating and travel funds, \$247,394 in Classified/Unclassified or Other Personal Services Salary and \$108,606 reduction to Employee Benefits. This would result in a reduction of 5 FTEs.</p> <p>The 3% reduction could impact all 4 of the divisions within Clemson PSA. Because our Livestock and Poultry Health Division has a critical role to safeguard the food supply chain in South Carolina, we would request that division be held harmless. This would prevent the other three divisions from taking a disproportionate share of the total 3% reduction.</p>
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The amount of the reduction is based on 3% of the total general fund appropriation for all 4 divisions.

Please provide a detailed summary of service delivery impact caused by a reduction in General Fund Appropriations and provide the method of calculation for anticipated reductions. Agencies should prioritize reduction in expenditures that have the least significant impact on service delivery.

AGENCY COST SAVINGS PLANS

Savings will be realized through multiple means. Positions that are vacated due to retirements, but that are critical to our infrastructure will be refilled, but at a salary savings for a new employee, vs an employee with 28 years of experience. In areas that are not critical to our infrastructure, positions will not be refilled and the savings will be utilized to support cost of existing operations for the division that realizes the savings.

What measures does the agency plan to implement to reduce its costs and operating expenses by more than \$50,000? Provide a summary of the measures taken and the estimated amount of savings. How does the agency plan to repurpose the savings?

Agency Name:	Clemson University - Public Service Activities		
Agency Code:	P200	Section:	45

FORM F – REDUCING COST AND BURDEN TO BUSINESSES AND CITIZENS

TITLE	Regulation through Education
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Provide a brief, descriptive title for this request.

EXPECTED SAVINGS TO BUSINESSES AND CITIZENS	The philosophy of regulation through education will save citizens and businesses of South Carolina from fines and fees for failure to comply with existing State and Federal regulations.
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What is the expected savings to South Carolina's businesses and citizens that is generated by this proposal? The savings could be related to time or money.

FACTORS ASSOCIATED WITH THE REQUEST	Mark "X" for all that apply: <input type="checkbox"/> Repeal or revision of regulations. <input type="checkbox"/> Reduction of agency fees or fines to businesses or citizens. <input type="checkbox"/> Greater efficiency in agency services or reduction in compliance burden. <input checked="" type="checkbox"/> Other
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METHOD OF CALCULATION	N/A
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Describe the method of calculation for determining the expected cost or time savings to businesses or citizens.

REDUCTION OF FEES OR FINES	There are no planned fine or fee reductions for FY22 for Clemson University – PSA.
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Which fees or fines does the agency intend to reduce? What was the fine or fee revenue for the previous fiscal year? What was the associated program expenditure for the previous fiscal year? What is the enabling authority for the issuance of the fee or fine?

REDUCTION OF REGULATION	There are no planned amendments to regulations associated with Clemson University – PSA for FY22.
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Which regulations does the agency intend to amend or delete? What is the enabling authority for the regulation?

SUMMARY	<p>Clemson University Public Service Activities has operated for many years under the philosophy of regulation through education. By educating the public and professionals on requirements for handling pesticides, moving plants and animals intrastate or interstate, and proper treatments for invasive species, our Regulatory and Public Service and Livestock-Poultry Health Divisions serve to prevent issues that would cost the citizens and agricultural industry and the state of South Carolina excessive fines, fees and lost plants and animals if these divisions did not exist.</p>
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Provide an explanation of the proposal and its positive results on businesses or citizens. How will the request affect agency operations?

Law Enforcement and Criminal Justice Subcommittee Proviso Request Summary

[illegible]

Statewide Extension Program Support

Recurring request: \$1,127,250

The requested funds will provide needed resident county agent support for Clemson Cooperative Extension youth development and critical agriculture programs including, food safety and nutrition, commercial horticulture, agribusiness and emerging crops, and forage-based livestock.

Statewide Operating and Support Funds: \$540,000

Clemson Cooperative Extension offices in all 46 South Carolina counties are open to the public for meetings with county agents who provide research-based information on youth development; agribusiness; agriculture; food, nutrition and health; and natural resources management. Our agents also provide workshops, programming and on-farm assistance requiring supporting materials and extensive travel. The requested will allow Clemson Cooperative Extension programming to keep pace with a South Carolina population growth

Forage-based Livestock Extension Faculty (1): South Carolina's \$2.5 billion animal agriculture industry is under competitive pressure from out-of-state and international producers. South Carolina has the land and infrastructure to support increased forage-based livestock production by focusing on efficient management practices optimized for success in the state's unique climate and pastureland.

Sustainable Agriculture Extension Agents (3): The Emerging and Sustainable Agriculture Program will provide research-based training and education to farmers engaged in the production of emerging and specialty crops including vegetables, industrial hemp, small livestock, locally-grown foods, USDA certified organic operations and Controlled Environment Agriculture projects.

Controlled Environment Agriculture Extension Agents (3): The South Carolina Department of Agriculture anticipates Controlled Environment Agriculture will expand in South Carolina driven by the demand for fresh, local, organic and sustainable vegetables, fruits, and herbs and efforts to minimize the need for open land irrigation. This area of agricultural production is a critical link between traditional agriculture and the state's steadily urbanizing population.

Student Organic Farm Manager (1): The Clemson Student Organic Farm is a fully operational 6-acre certified organic demonstration, research, and education facility on Clemson's campus that has achieved USDA Good Agricultural Practices certification governing food safety in the production and handling of produce.

Forage Specialist (PhD) (1 FTE)	\$ 130,500
County Agents (6 FTE)	\$ 391,500
Farm Manager (1 FTE)	\$ 65,250
Operational Support	\$ 540,000
Total (8 FTE)	\$1,127,250

FY21-22 Recurring Priority #2

Critical Fruit and Vegetable Research

Recurring request: \$1,448,400

Scientists at Clemson's six Research and Education Centers (RECs) are driven to keep South Carolina farmers competitive on a national and global scale through research critical to maintaining economically viable and efficient crop production. Advancing the state's fruit and vegetable economy requires agricultural scientists committed to conducting innovative research to meet fluctuating market demands and constituent needs. Clemson agricultural scientists are also the foundation of successful applications for research grants and contracts with the USDA, state commodity boards, Environmental Protection Agency and other key groups.

The requested funds will be used to hire scientists and research technicians with expertise to support research that addresses key challenges to maintaining and increasing competitiveness of SC fruit and vegetable growers.

Fruit and Vegetable production: Clemson scientists will strengthen the state's specialty crop industry by improving yields through disease outbreak prevention and mitigation, and by developing improved cultural practices.

- Plant Disease Specialist: Address threats from crop diseases
- Vegetable Production Specialist: Improve production practices

Fruit and Vegetable safety and profitability: Clemson scientists will conduct research to protect food safety through each step in the food production and processing chain while developing marketing strategies and aiding in the development of crop policy.

- Post-harvest Specialist: Develop innovations in mechanization and post-harvest technologies
- Policy and Marketing Specialist: Improve profitability through crop policy and marketing

Fruit and Vegetable improvement and pest management: Strengthening scientific expertise in these areas will allow Clemson scientists to develop crop varieties optimized for South Carolina and Southeastern growing conditions and pest threats.

- Plant Breeder: Improve fruit and vegetable crop characteristics
- Plant Pest Specialist: Improve management of insect pests on fruits and vegetables

Six Technicians (one per researcher): Support research activities and increase research capacity.

Research Faculty (6 FTE)	\$ 783,000
Research Technicians (6 FTE)	\$ 365,400
Operational Support	\$ 300,000
Total (12 FTE)	\$1,448,400

FY21-22 Recurring Priority #3

Statewide Forestry and Wildlife Extension

Recurring request: \$767,800

According to a Clemson University study published in 2016, natural resource-based sectors contribute \$33.4 billion in economic activity annually to the South Carolina economy and are responsible for 218,719 jobs. Forests cover 13 million acres, including 7.2 million acres of private non-corporate forestland owned and managed by 207,000 family foresters.

South Carolina's growing population and increased urbanization and the sustainable management of these natural resources requires robust research and an effective Extension programs designed to impart the latest science-based information to forestland owners across all regions of the state. Clemson PSA is seeking funding in the following specific focus areas:

Natural Resources Youth Program Director: Clemson Cooperative Extension's 4-H Natural Resources and Environment Education Programs engage approximately 35,000 youth annually in methods for confronting some of the world's most pressing problems, developing a love and respect for nature, becoming stewards of the environment and understanding the science behind the issues. The Natural Resources Youth Program Director will broaden the scope and strengthen the capacity of Clemson PSA's natural resources youth programs.

Wildlife Management: Wildlife issues in the state have expanded beyond traditional hunting and fishing management to include human-wildlife interactions, invasive species, and economic development. Clemson PSA will expand its expertise to strengthen its ability to assist constituents in confronting wildlife problems, capitalizing on the economic impacts of hunting, fishing and tourism, and tackling challenges associated with the sustainable management of profitable recreational hunting game such as deer, turkeys and quail.

Specifically, funds will be used to hire and support resident faculty members at Clemson Research and Education Centers, Extension Associates and a Shooting Sports Coordinator. The funds will also be used to provide these personnel with technical support.

Director for Natural Resources Extension Programs (1 FTE)	\$130,500
Wildlife Expert (1 FTE)	\$130,500
Extension Associates – Statewide Program Coordinators (3 FTE)	\$261,000
Extension/Research Technical Support (2 FTE)	\$121,800
Extension Operation	\$124,000
Total (7 FTE)	\$767,800

Research and Education Center Graduate Student Housing

Request: \$4 million

Clemson PSA's six Research and Education Centers (RECs) are home to teams of scientists performing transformative research that helps build the South Carolina agribusiness economy, conserve the state's environment and natural resources, and improve the nutritional quality and safety of the food supply.

Clemson PSA has added 23 scientist positions over the last five years with the mission to help South Carolina farmers provide safe, affordable, and nutritious food for the state's citizens and stay competitive on a global scale.

In order to fulfill its research mission, Clemson PSA must add talented and accomplished graduate students, but housing for these graduate students is insufficient.

The ability to add graduate students to study and conduct research at off-campus RECs will expand the capability of our scientists to conduct research in all regions of the state and provide the state's agriculture and natural resource industry with Master's, Ph.D. and post-doctoral students trained to help address agricultural and natural resources problems facing South Carolina.

The requested funding will allow Clemson PSA to add new housing for students and visiting scientists and renovate and expand existing housing that is currently available at each of the RECs across South Carolina.

Construction of Additional Facilities	\$2 million
Repair and Renovate Existing Facilities	\$2 million
Total	\$4 million

Pee Dee REC Center Greenhouse Construction

Non-recurring request: \$2 million

Clemson's Pee Dee Research and Education Center (PDREC) is one of six RECs strategically located in each of South Carolina's unique climate and soil regions devoted to agricultural and natural resources research designed to support the state's agribusiness and forestry economies.

PDREC is home to Clemson's Advanced Plant Technology Program, which conducts high-tech research focused on creating new row crop cultivars with genetic traits optimized for South Carolina and Southeast growing conditions. These optimized plants are drought and pest tolerant and allow farmers to maximize crop yields while reducing inputs such as water, fertilizer and pesticides.

Research at Clemson's PDREC has resulted in a gluten-free wheat that will reduce sickness caused by gluten intolerance, a soybean cultivar that can be grown in extreme heat and drought, and other genetic advancements that will increase row crop yields and allow South Carolina farmers to sell their crops in new markets.

Existing greenhouse facilities at PDREC have been retrofitted but are still not suited for summer use, resulting in delayed research results in bringing optimized crops to the marketplace.

The requested funds will be used to build three research quality greenhouse facilities specifically designed to support Clemson's plant breeding programs and allow Clemson University scientists to continue making plant technology breakthroughs.

FY21-22 Non-recurring Priority #3

Sandhill REC Research and Extension Building Repairs Non-recurring request: \$990,000

Repair of 1920s Two-story Building for Research and Extension Offices

Sandhill Research in Education Center (REC) in Columbia, was established in 1926 to conduct agricultural research in the sandhill region of the state. Today, research efforts at the REC have evolved and expanded to continue to support the state's \$41.7 billion agribusiness industry. Sandhill REC is also home to the growing Agribusiness Extension Program Team, focusing on farm risk management, commodity marketing, agriculture policy, local food systems development, small business planning and agritourism.

This request is to fund needed upgrades and repairs to one of the original 1920s buildings. As Clemson has achieved better integration of our research, Extension and regulatory activities at Sandhill REC, we are in need of additional office space. This historic building is strategically located and would be functional for many decades after this investment. Details and estimated costs of the required upgrades and repairs are listed below.

Elevator	\$ 180,000
HVAC	\$ 138,000
Exterior repairs	\$ 240,000
Main floor repairs	\$ 235,000
Lower level repairs	\$ 197,000
Total	\$ 990,000

Facility Renovation for Water Research

Request: \$2 million

Clemson University's South Carolina Water Resources Center (SCWRC) is a multi-disciplinary, cross-college research organization focusing its research efforts on watershed study and management; water policy; remote water sensing, image analysis and technological innovation; water resources and population growth; and emerging water problems. Through its work, the SCWRC provides state agencies with information they need to make unbiased, research-based decisions about South Carolina water resources policy.

In FY18, Clemson PSA invested approximately \$330,000 to begin converting a near-campus building that formerly housed environmental toxicology research into a solid programmatic home for the SCWRC. The building includes laboratory and meeting space and features an ideal near-campus location for research, monitoring, analysis, and technical instruction. Renovations included replacing air conditioning units and adding meeting space and video conferencing technology.

In FY2018-19, Clemson PSA requested \$7 million in one-time state funding and was allocated \$3 million. Clemson PSA is requesting \$2 million in funding to complete a renovation that will make possible overall building repairs and renovations, and feature new laboratory equipment for water quality analysis, water sensor development and remote sensor monitoring, and new computer equipment and monitors that will allow water researchers to conduct virtual meetings, on-site trainings, and webinars across the state and with southeast partnering universities.

Once renovated, the expanding team of water resources experts will be based in this building to conduct analytical water-related research, and provide research-based natural resources management outreach, instruction, and demonstration. The building's proximity to campus and research space will unify staff and create capacity for more collaborative research supported by grants and private funding.