

AGENCY NAME:	Clemson University PSA		
AGENCY CODE:	P200	SECTION:	045



Fiscal Year 2014-15 Accountability Report

SUBMISSION FORM

AGENCY MISSION	<p>I-1 Mission</p> <p>Vision</p> <p>To be acknowledged as the foremost provider of practical new discoveries, outreach education and technical assistance in the areas of agribusiness productivity and profitability, economic and community development, environmental conservation, food safety and nutrition, and 4-H youth development to enhance the quality of life for South Carolina's citizens.</p> <p>Mission Statement</p> <p>Clemson University Public Service Activities is made up of four interrelated units: Experiment Station, Extension Service, Livestock Poultry Health and Regulatory Services. The overall agency mission is to conduct research, extension (knowledge transfer) and regulatory programs that:</p> <ul style="list-style-type: none"> Advance the competitiveness of South Carolina's \$41.7 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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Please identify your agency's preferred contacts for this year's accountability report.

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I have reviewed and approved the enclosed FY 2014-15 Accountability Report, which is complete and accurate to the extent of my knowledge.

AGENCY DIRECTOR (SIGN/DATE):	
(TYPE/PRINT NAME):	Dr. George R. Askew, Vice President, Clemson University Public Service and Agriculture

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Mission Statement

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- Safeguard the food supply
- Preserve natural resources
- Prepare young people for the workforce through 4-H

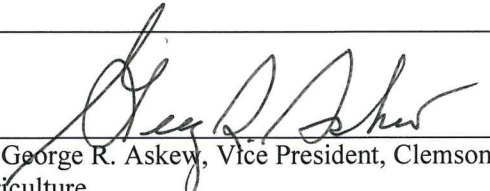
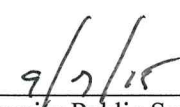
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AGENCY'S DISCUSSION AND ANALYSIS

Clemson University's Public Service Activities (PSA) welcomes the opportunity to provide: 1) relevant information regarding its mission, funding, and performance; 2) external and internal factors affecting our performance this year; 3) our current efforts and results; and 4) present and anticipated changes.

Please see the Appendix for very brief information regarding Clemson University and PSA's accountability systems both external and internal. A copy of the PSA Organizational Chart is also enclosed as requested.

The 2014-15 reporting period is driven by the leadership of Vice President for Public Service and Agriculture Dr. George R. Askew, Regulatory Services Director, Dr. Stephen Cole, Livestock, Poultry and Health Director, Dr. Boyd Parr, Clemson Experiment Station Director, Dr. Christopher Ray, and Cooperative Extension Service Director, Dr. Thomas R. Dobbins. Clemson University continues to be led by President, Dr. James P. Clements, and is a 21st best national public university, as ranked by *U.S. News & World Report*.

Background

Public Service Activities (PSA) is at the core of Clemson's land-grant university mission of teaching, research, and public service. Located in all 46 counties and at five Research and Education Centers around the state, PSA develops and delivers research-based information for agriculture, the environment, food safety and nutrition, economic and community development, and youth and families.

Clemson PSA is part of the national USDA system of research and knowledge transfer. We work collaboratively with stakeholders and other state agencies to identify issues and develop research-based solutions that enhance South Carolina's largest industry—agribusiness—that contributes \$41.7 billion and 200,000 jobs to the state economy. Clemson PSA is uniquely equipped to transfer science-based information to the state's citizens through the Extension Service, which conducts educational programs in all 46 counties targeted to the local needs.

Clemson Public Service Activities is made up of four interrelated units: Regulatory Services, Livestock-Poultry Health, Experiment Station, and Extension Service (listed in the order they appear in PSA's budget presentation).

Regulatory Services programs protect the state from exotic and invasive species, ensure that pesticides are used safely, regulate the structural pest control industry, verify that fertilizer and lime meet standards and labeled guarantees, conduct programs for seed and organic certification, provide diagnosis of plant pests, and ensure readiness to respond to an agroterrorism event impacting the state's agriculture.

Livestock-Poultry Health Programs ensure the health and safety of the livestock/poultry industries and companion animals, and protect the meat supply and public health of South Carolinians.

Clemson Experiment Station scientists work to improve the quality of life for people in South Carolina, the nation, and the world by providing science-based information on major issues facing decision makers.

Cooperative Extension Service agents meet the diverse needs of South Carolina citizens by delivering research-based information on agriculture, the environment, food safety and nutrition, economic and community development, and youth and families to agribusiness professionals and individuals across the state. South Carolina citizens and PSA stakeholders have direct input into decisions of the Extension system through statewide planning efforts and a needs identification process.

Accountability and Format of Templates

The Strategic Planning and Performance Measures sections are arranged by the four main units within Clemson PSA: Experiment Station (Research), Extension Service, Livestock-Poultry Health, and Regulatory Services.

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Each of the unit's goals, strategies, objectives, and performance measures contributes to one or more of the five focus areas in our mission to support agriculture, economic development, environmental conservation, food safety and youth development. The results of our efforts are highlighted in the Strategic Planning and Performance Measures section of this report, however, the impact of Public Service Activities' research, educational, and regulatory programs goes far beyond the immediate recipients and is not easily formatted to an Excel spreadsheet. Below are some PSA accomplishments for FY 2014-15, organized by major unit.

REGULATORY SERVICES www.clemson.edu/public/regulatory/

Efforts to expand collaboration between Clemson Regulatory Services and Clemson Extension began in FY 2015 to leverage the expertise of Regulatory Services and the statewide connections of Extension agents. Regulatory and Extension personnel identified the following programs that could be expanded by collaboration:

- **Integrated Pest Management in Schools:** Expand the existing program conducted by Regulatory Services' Department of Pesticide Regulation to add Extension agents. The goal is to hold six (6) trainings for Extension agents
- **Jr. Invasive Species:** Educational program to teach middle school students how to identify and detect invasive pests of regulatory concern. The program was designed and developed by RPSP staff and was provided to 5 schools in 5 counties reaching over 600 students. The goal is to expand the program to additional schools and counties reaching over 1000 students in 2016.
- **Pollinator Stewardship Program:** This program addresses the decline in the U.S. honeybee population. Collaboration with Extension agents produced a plan to develop a beehive mapping program so pesticide applicators could avoid treating areas where bees are present. This program is also designed to improve communication between pesticide applicators and beekeepers. In addition to the mapping tool, educational materials on pesticide selection and application will be developed. The goals for FY 2016 are to have 200 beekeepers and 100 pesticide applicators use the mapping tool and to develop a state pollinator protection plan that meets EPA standards.
- **PCR testing for fecal coliforms** assisted municipalities in meeting EPA water quality standards. A method was developed, tested and successfully implemented to differentiate fecal coliforms of animal origin in water samples. In FY 2016 we want to expand the water sampling program for counties and municipalities as a service. This project is being done in conjunction with the Clemson Center for Watershed Excellence.
- The Department of Pesticide Regulation **collected 169,952 pounds of used pesticide containers for recycling**. Since the program began in 1993, nearly 3 million pounds of pesticide containers have been recycled, representing an equal number of containers. The program helps protect the environment from pesticide contamination and reduces waste sent to landfills.
- The Department of Pesticide Regulation is collaborating with the S.C. Department of Agriculture to **collect and dispose of waste pesticides**. This initiative will prevent the unnecessary dumping and other inappropriate disposal of old, unused, and discontinued pesticides that can damage the environment. In FY 2015, more than 53,400 pounds of waste pesticides were collected.
- In conjunction with the S.C. Pest Control Association and other stakeholders, the Department of Pesticide Regulation **revised the Official South Carolina Wood Infestation Report** to make the report consistent

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with changes to the S.C. Code of Regulations. This document generally is required by lending institutions to disclose the presence or absence of wood destroying organisms in a structure prior to sale.

- A molecular biologist in the Department of Plant Industry's Molecular Plant Pathogen Detection Lab developed, and now is testing, a real-time PCR method for **differentiating European honeybees** from Africanized bees. This was successful.
- The Department of Plant Industry initiated a **Fertilizer Tonnage Auditing** program to ensure that proper tonnage reporting is being submitted and to eliminate errors from industry. Five (5) audits were conducted resulting in refunding money to manufacturers for overages.

LIVESTOCK-POULTRY HEALTH <http://www.clemson.edu/lph/>

The Livestock-Poultry Health Programs protect the health of food animals, other livestock, and companion animals, conducting constant surveillance for diseases that affect both man and animals, providing the diagnostic expertise that allows for treatment and eradication of disease of domestic animals, inspecting/testing the processing of foods of animal origin, and coordinating state agricultural/animal emergency response as lead agency of ESF-17.

Animal agriculture represents \$6 billion and 37,253 jobs in South Carolina's overall economy, with direct economic impacts of \$1.24 billion and 11,782 jobs. Livestock-Poultry Health (LPH) programs protect and monitor the health of all livestock and poultry in the state and are integral to this industry's continuation and growth.

Animal Health Programs personnel conducted 898 inspections at livestock auction markets, after-hours markets, dealers, farms, and miscellaneous sales sites such as flea markets. These inspections are part of the requirement for **maintaining the state's "disease free"** status and are coordinated with USDA.

A novel H5N2 strain of **Highly Pathogenic Avian Influenza (HPAI)** caused the largest and most expensive foreign animal disease outbreak in the history of the United States in the Upper Midwest in 2015. Livestock-Poultry Health's top strategic need is to be adequately staffed and equipped to help assure early detection, swift eradication and rapid recovery for the state's poultry producers in an HPAI event in SC. Direct losses to the poultry industry in SC would be substantial and the potential loss of export and interstate markets is a significant concern we will face for the next several years. "Disease free" status improves access to both interstate and international markets. The state veterinarian signed 245 letters this year certifying South Carolina's status for poultry enabling import to certain countries. S.C. poultry industry exports were valued at \$142 million in 2012.

SC Ag-Watch program led by LPH provides training to livestock owners on improved biosecurity practices, foreign animal disease awareness, and notification procedures. This approach emphasizes prevention of disease along with the traditional roles of disease surveillance, control, and eradication. State and local emergency managers also use SC Ag-Watch Manuals as a reference for agricultural emergencies.

LPH continued work on the **Mid-Atlantic Secure Milk Supply Project** in SC along with the State Veterinarians in TN, NC, VA, MD, WV, DE, NJ, PA, NY & GA. This project, developed in collaboration with all S.C. dairy industry segments, created a regional plan to mitigate potential economic losses of non-infected, voluntarily participating dairy farms in the event of a foot and mouth disease outbreak, without significantly increasing the likelihood that the disease could spread. LPH & Clemson University completed work on the official MOU that was endorsed in SC by the State Veterinarian, Clemson VP for PSA, Commissioner of Agriculture and the Governor. It has since been endorsed by all 11 states.

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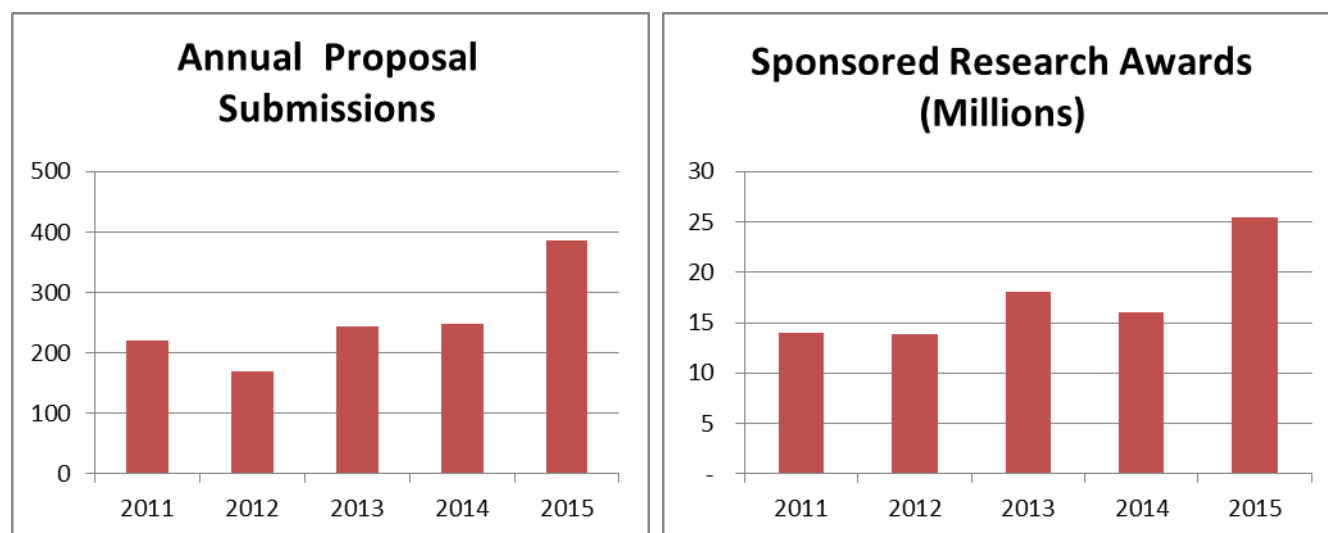
The **Veterinary Diagnostic Center** completed 95,551 tests and procedures during FY14-15 in performing its animal and food safety diagnostic duties. Of these, 94,569 were related to production animals and regulatory duties; the remaining 982 were from companion animals and wildlife.

SC Meat-Poultry Inspection completed its **annual audit by USDA Food Safety Inspection Service**. This review is to ensure a safe meat supply. The S.C. program continues to meet or exceed the federal requirements. Department activities included 100% on-line inspection during slaughter operations on 1,243 slaughter days that processed 22,989 livestock and more than 3.9 million poultry. Additionally, inspectors performed 43,512 individual inspection procedures during daily inspection in 71 slaughter and processing facilities.

Livestock-Poultry Health helps assure South Carolina's concerns are discussed at the national and international levels. Professional staff served in many roles including the Secretary's (USDA) Advisory Committee on Animal Health, American Veterinary Medical Association (AVMA) Animal Agriculture Liaison Committee, National Animal Health Information Technology Board (USDA), Vice-Chair of US Animal Health Association (USAHA)/American Association of Veterinary Laboratory Diagnosticians (AAVLD) Joint Committee on Animal Emergency Management, First Vice-President of USAHA, S.C. Delegate in AVMA House of Delegates, and President-elect of the American Association of Small Ruminant Practitioners.

CLEMSON EXPERIMENT STATION http://www.clemson.edu/public/experiment_station/

As a leading land-grant public research institution, Clemson University highlights its federal **grant activities**. The number of externally funded research grants is one measure of Experiment Station scientists' success in competing for limited funding. The data is cyclical in nature because of long-term funding periods—usually two to five years—limited numbers of principal investigators, and time constraints. This data is used to evaluate researchers' productivity as well as to determine PSA's contribution to university goals for generating external funding for research. Below are graphs showing the number of grant proposals that Experiment Station scientists submitted and the resulting grant awards (in millions of dollars).



Patents and technical contributions demonstrate that Clemson PSA scientists contribute to the body of knowledge in their areas of expertise. Patents indicate the merit and originality of discoveries submitted. Patents

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also have the potential to generate new economic activity through licensing and marketing. Disclosures are the first step in the discovery process leading to a patent. Data over time indicate that Experiment Station researchers are successful in discovering new products and processes, as shown below.

In FY 2014-15 Experiment Station **researchers produced**:

- 344 publications
- 105 technical contributions
- 9 disclosures
- 1 technology license

COOPERATIVE EXTENSION www.clemson.edu/extension/

Extension personnel delivered **educational programs** and information through 246,022 contacts across all 46 South Carolina counties. More than 156,084 participants attended 9,463 Extension programs.

To **reduce food-borne illness**, agents conducted ServSafe® food safety training for managers, supervisors, and other food handlers. A total of 206 food-service employees earned a course completion certificate, representing 140 food establishments. The National Restaurant Association estimates that, on average, a food-borne illness outbreak costs an establishment about \$75,000. The approximate economic value of the trainings could be as high as \$10,500,000 by preventing outbreaks.

Water Resources Agents conducted 706 programs. They partnered with the Enoree River Educational Board and worked with septic pumping contractors to identify potential failing septic systems and high risk communities. After data collection on the Enoree River, all stations showed water quality improvement. Clemson University and the South Carolina Department of Health and Environmental Control have partnered to develop and implement the Certified Erosion Prevention and Sediment Control Inspector (CEPSCI) program reaching 1,121 individuals and generating \$287,795 in external revenue. With a mean annual wage for construction site inspectors in South Carolina of \$44,940, the CEPSCI program supported salaries and wages of \$50,400,000.

In addition, Extension agents developed and delivered 256 educational programs in the areas of **Sustainable Forest Management and Natural Resources**, reaching 4,589 people. Volunteers such as Master Naturalists contributed over 19,857 hours, which represent \$408,274 of program support. Agents conducted fire assessments, and presented workshops on prescribed fire burning, timber taxation, wildlife and pond management, hunting and land liability, forest landowner association meetings, and worked with individual families. Total acres affected were about 500,000.

Agents conducted 4,595 **4-H programs** that reached 74,087 youth and families with programs on agriculture, science and natural resources, food safety and nutrition, and leadership skills. In STEM programs, youth used critical thinking and problem-solving skills. Some 2,500 youth participated in citizenship/service projects. Over 3,021 adult volunteers contributed 18,126 hours, which represents a value of \$372,670 of program support.

Extension programs on productivity and profitability benefitted growers farming more than 1,055,097 **acres of agronomic crops**, which included 100,000 acres of peanuts, 443,493 acres of soybean, 229,952 acres of cotton, 262,945 acres of corn, and 18,707 acres of sorghum.

Participants in the **Palmetto Leadership, Senior Leadership, and Junior Leadership** programs reported that they strengthened their community awareness and ability to access community resources, built partnerships, and strengthened their capacity to respond to future issues and opportunities. The most recent research indicates that 70% of graduates were still involved in a responsible community project three years after graduation.

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Extension Livestock and Forage programming focuses on increasing the adoption of research based best management practices to increase environmental sustainability, profit, and livestock/forage health. Programs increased market awareness and marketing strategy, leading producers to sell feeder calves directly off the farm, which increased the value of these cattle by an average of \$96/head compared to traditional marketing options. Increasing the value of 2.5% of South Carolina's total cattle inventory (approximately 360,000) would lead to a \$1,200,096 impact. Other programs included Master Cattleman, Grass Masters, small flock poultry workshops, small ruminant management, field days, Backyard Poultry and Backyard Swine Processing, Pasture Ecology Schools, Beekeeping Shortcourse, Beef Quality Assurance certification trainings, biosecurity programs, meat goat workshops, and quality milk initiative surveys.

South Carolina Regulation R.61-43 provides requirements for confined animal facilities and the utilization of animal manure from those facilities. Under this regulation, managers of confined animal facilities must obtain a manure management certification through Clemson University and maintain that certification. Trainings were held around the state for 1,187 producers who received certification or recertification.

The economic impact of selected **Extension Horticulture Programs** was \$2,836,000. Extension commercial vegetable production was \$235,000, commercial fruit production was \$960,000, commercial ornamental production was \$500,000, and the Clemson Small Farm Projects was \$105,000. The Small Farm Projects with SC State University with Clemson's assistance resulted in \$36,000 in savings due to improved fertility and pest management with some reporting a 50% increase in sales volume and a 25% increase in profit margin. Due to improved knowledge of tree management, pest management, and fertility management particularly in old orchards undergoing renovation, growers have saved or gained in better quality and yields approximately \$47,500.

Agents conducted 247 **nutrition, physical activity, and health programs** for the public, reaching 4,035 persons. **Expanded Food and Nutrition Education Programs** were conducted for 624 limited resource adults and resulted in improved nutrition, physical activity, food safety, and food resource management practices (such as planning meals, comparing prices, and using grocery lists). Approximately 2,020 volunteer hours were contributed for adult and youth EFNEP programs, representing a program value of \$41,531.

Home and Garden Information Center (HGIC) experts provided gardening information to 12,255 individuals by telephone or in person. In addition, the HGIC website recorded 3,566,476 hits last year. HGIC developed and mailed 413 fact sheets.

Some 325 **Master Gardeners** contributed 69,892 hours of volunteer service through programs, oral presentations, newsletters, radio programs, and TV appearances. This represents a value of \$1,436,980 in program support.

Extension agents and specialists used traditional media and social media to publish 345 articles in newspapers, trade publications, newsletters, and delivered information on television, radio, Facebook, blogs and websites, reaching a potential 1,513,030 people in South Carolina and neighboring states. In some counties text messages are sent to farmers with daily weather forecasts and local grower updates.

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Strategic Planning Template

Type	Goal	<u>Item #</u> Strat	Object	Description
G	1			Regulatory Services protects the citizens of South Carolina and the environment by implementing legislatively mandated regulatory programs and by providing other essential programs and services for agriculture and related sectors and for homeowners.
S		1.1		Ensure the safe use of pesticides to protect South Carolina's public health, natural resources and environment.
O			1.1.1	Regulate the structural and turf/ornamental pest control industries ensuring compliance with pesticide laws and regulations.
O			1.1.2	Monitor the use of pesticides in South Carolina to ensure their safe and effective use and prevent harm to humans, plants, animals and the environment.
S		1.2		Protect South Carolina's structures from termites and other structural pests by ensuring high standards are met for the pest.
O			1.2.1	Regulate the structural and turf/ornamental pest control industries ensuring compliance with pesticide laws and regulations.
O			1.2.2	Monitor the use of pesticides in South Carolina to ensure their safe and effective use and prevent harm to humans, plants, animals and the environment.
S		1.3		Ensure that the fertilizer, lime, landplaster and soil amendments sold in South Carolina will be of high quality and properly labeled.
O			1.3.1	Fertilizer, lime, and soil amendments distributed to end users in South Carolina must meet label guarantees and be free of contaminants.
S		1.4		Protect South Carolina' agriculture and the environment from harmful or invasive plant disease, weed, and insect species.
O			1.4.1	Protect South Carolina's ecosystem and all levels of agricultural production by mitigating impact from plant pests, i.e., plant diseases, etc.
S		1.5		Establish standards will be met for the production of certified seed.

O			1.5.1	Seed is certified as true to variety and meets all official certification standards for quality and purity.
S		1.6		Correctly identify or diagnose plant pests and diseases and provide effective control recommendations in a timely manner.
O			1.6.1	Analyze plant samples to identify or diagnose weed, disease, and insect problems, providing results and control recommendations to clients.
S		1.7		Help prepare South Carolina to better recover from disasters and other emergencies impacting agriculture in the state.
			1.7.1	Ensure that all employees are trained on the ICS (Incident Command System) in the event of an emergency. Have trainings to make sure that everybody understands their roles.
S		1.8		Enforce that established standards will be met for the production of certified organic products.
O			1.8.1	Provide USDA ---NOP accredited certification services to organic producers, processors, and handlers who seek certification through our agency.
S		1.9		Provide for effective leadership, management and administration of Division programs, personnel and facilities.
O			1.9.1	Annually develop and initiate specific objectives for the various program areas within the two departments to include assignment of responsibility and target dates for completion.
G	2			Clemson Livestock Poultry Health will ensure the continued health of the livestock and poultry industry, ensure safe, wholesome, properly labeled meat and poultry products, and protect the public health of the citizens of South Carolina.
S		2.1		Monitor interstate movement of animals, perform inspections at livestock auction markets, and develop and expand livestock traceability capability for livestock disease prevention, control and eradication.
O			2.1.1	Protect animal and public health through control of endemic, foreign, and emerging diseases; Enforce state and federal animal health laws and regulations by monitoring interstate movement of animals and inspecting livestock auction markets; Expand livestock traceability, designed to enhance animal disease control, surveillance, and eradication programs.
S		2.2		Protect the health of consumers by providing a comprehensive inspection service to ensure safe, properly labeled, wholesome meat and poultry products.
O			2.2.1	Regulate approximately 90 meat and poultry plants; Protect the health of consumers by providing a comprehensive inspection service to ensure that meat and poultry products are safe, wholesome and accurately labeled.

S		2.3		Provide accurate and timely veterinary diagnostic and surveillance testing for early detection of disease.
O			2.3.1	Provide accurate and timely veterinary diagnostic and surveillance testing for early detection of disease, thus improving the response activities and mitigating economic losses in livestock and poultry industry sectors; To meet NVSL accreditation standards and criteria for technicians to be proficiency certified.
G	3			The Clemson Experiment Station aims to identify critical issues and find solutions through research that support South Carolina's agriculture and forest industries.
S		3.1		Provide research based information for use by livestock producers, dairy and poultry farmers and horse owners in South Carolina. Support and assist the commercial horticulture industry, farmers and homeowners in South Carolina. Generate new science to boost agricultural production, improve global capacity to meet the growing food demand, and foster innovation in fighting hunger by addressing food security for vulnerable populations. Improve the quality, nutritional value and safety of the food consumed by South Carolina's citizens. Generate knowledge to develop agricultural systems that maintain high productivity in the face of climate change.
O			3.1.1	Conduct research to improve animal production systems, improve horticultural crop production, to address issues related to global food security and hunger, in climate change, and in food safety, nutrition, and human health in South Carolina. Outcomes are to include disclosures, patent actions, new varieties, and technical contributions.
S		3.2		Develop new and innovative programs and strategies to encourage economic growth and development, in South Carolina's rural counties.
O			3.2.1	Conduct research to develop new strategies for rural economic growth in South Carolina. Outcomes are to include disclosures, patent actions, and technical contributions.
S		3.3		Help to insure that South Carolina's citizens and industry have an ample supply of water and habitat for fish, wildlife and recreational purposes now and in the future, and to improve the quality of South Carolina's forests through watershed management, timber production strategies, and forest management practices.
O			3.3.1	Conduct research to improve natural resources in South Carolina. Outcomes are to include disclosures, patent actions, and technical contributions.
S		3.4		Identify and develop biomass which can be used for biofuels, design optimum crops and forest products to maximize bioenergy production, and produce value-added bio-based industrial products.

O			3.4.1	Conduct research into sustainable energy. Outcomes are to include disclosures, patent actions, and technical contributions.
G	4			The Cooperative Extension Service will provide sound, scientifically based information to South Carolinians and help them use that information to improve the quality of their lives.
S		4.1		Improve the production efficiency, environmental sensitivity, and profitability of animal production systems and reduce the environmental impact of animal waste in South Carolina through the Livestock and Forages Program.
O			4.1.1	Growers will improve the production efficiency of confined animal systems and marketing of grazing livestock and will adopt grazing managing practices.
S		4.2		Improve profitability, increase efficiency, and reduce negative environmental impacts of horticultural cropping systems in South Carolina through the Sustainable Horticultural Production Program.
O			4.2.1	Increase the supply and dissemination of information and knowledge about IPM strategies and systems and increase the level of adoption of environmentally sound integrated pest management practices.
S		4.3		Develop and implement agricultural production systems in South Carolina that are economically sustainable, safe and environmentally sound through the Sustainable Agronomic Production Program.
O			4.3.1	Growers will adopt new agronomic production practices.
S		4.4		Promote healthy lifestyles and improve the quality and safety of food for the citizens of South Carolina through the Food Safety, Nutrition and Health Program.
O			4.4.1	Managers and supervisors will be certified to train food handlers in safe food handling techniques and food handlers will increase knowledge and skills in safe food handling and will practice safe food handling techniques.
S		4.5		Promote engagement, community enhancement, and improvement that are linked to community image, sustainable economic development, and improved quality of life for the citizens of South Carolina.
O			4.5.1	Citizens will gain new knowledge in economic and community development and practice leadership skills gained.
S		4.6		Empower youth to become healthy, productive, and contributing members of society and promote their educational success through a learn-by-doing approach, inclusive learning environments, and the involvement of caring adults.
O			4.6.1	Youth will gain knowledge and skills in leadership, citizenship, competency, coping, and caring skills through 4-H Youth Development Program.

S		4.7		Promote the use of best management practices of forest systems and other natural resources to improve South Carolina's forest productivity and promote natural resource conservation through the Sustainable Forestry and Natural Resources Program.
O			4.7.1	Landowners will adopt best management practices for forestry and natural resources.
S		4.8		Help foster Clemson University's academic reputation through relevant public service, highly regarded faculty and staff and well trained volunteers.
O			4.8.1	Extension staff will conduct relevant public service, publish scholarship for peer review, and publicize their achievements.
S		4.9		Promote the use of best management practices of water resources to improve South Carolina's water quality and quantity through the Water Resources Education Program.
O			4.9.1	Participants will increase knowledge in water resources and apply skills learned to improve water quality and quantity.

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Item	Performance Measure	Last Value	Current Value	Target Value	Time Applicable	ta Source and Availabil	Reporting Freq.	Calculation Method	Associated Objective(s)
	Number and acceptance rate of phytosanitary certificates issued.	100%	100%	95%	July 1-June 30	Benchmarking	Annual	DPI issued 1,188 federal phytosanitary certificates in a timely manner last year with no rejections from any country. 100% acceptance rate.	1.4.1
	Total number of inspections of regulated businesses and the resultant compliance rate of these inspections.	100%	100%	95%	July 1-June 30	Activity volume	Annual	594 of 654 nurseries were inspected (90%). 96 of 1148 nursery dealers were inspected (8%). All were in compliance or brought into compliance after inspection. The nurseries that were not inspected were hobbyists rather than commercial nurseries.	1.4.1
	DPI will conduct targeted surveys to detect potential invasive species introductions and regularly survey and treat currently infested sites with the goal of eradication.	7	8	4	July 1-June 30	Activity volume	Annual	Seven (7) targeted surveys were conducted during the reporting period as follows: honeybee national survey, no pests or diseases of concern. Phytophthora ramorum nursery --- not detected. Stone fruit orchard pests --- none detected. Nursery pests --- none detected. Emerald Ash Borer --- none detected. Cogangrass --- no new sites. Thousand Canker Disease/Walnut Twig Beetle --- not detected.	1.4.1
	Record and report the rate of fertilizer samples deficient, which is a direct measure of a company's ability to meet its legal obligation to provide consumers with the plant nutrients guaranteed on the label.	9.37%	9.78%	Less than 20%	July 1-June 30	Benchmarking	Annual	Of 2,027 fertilizer samples collected, 190 were found to be deficient for an overall deficiency rate of 9.37%, well below the 20% rate.	1.3.1
	Percentage of seed lots inspected in the field that meet purity standards in laboratory tests.	99.50%	99.30%	95%	July 1-June 30		Annual	99.5% compliance rate of the samples of certified seed lots (456) were found with the SC Seed Certification Standards for purity.	1.5.1
	Conduct on---site inspections and records audits of all producers and handlers desiring to obtain organic certification.	99.50%	99.50%	95%	July 1-June 30		Annual	The program has 45 certified operations in South Carolina.	1.5.1, 1.8.1

	Provide accurate and timely diagnosis of all samples and viable control recommendations based on this diagnostic information.	Met - The Plant Problem Clinic processed 3,952 samples	Met - The Plant Problem Clinic processed 5,051 samples	Samples diagnosed and identification and control recommendations provided within one week.	July 1-June 30	Activity volume	Annual	USDA-ARS completed an onsite audit of the Clemson University Organic Certification Program. Clemson was cleared of previous non-compliance s and approved for continued accreditation.	1.6.1
	Compliance rate Category 7 licensed pesticide applicators.	84%	81%	60%	July 1-June 30	Benchmarking	Annual	The Plant Problem Clinic processed 3,952 samples. This was broken down as follows: 873 disease or abiotic problems, 277 insects or mites, 97 weeds, 8 mushrooms. The Molecular Plant Pathogen Detection Laboratory processed 280 samples. The Commercial Turf Clinic processed 58 samples. 2,697 nematode samples.	1.1.1, 1.2.1
	Total number of pesticide applicators licensed in Category 3.	4793	3254	2800	July 1-June 30	Activity	Annual	Compliance Rate	1.1.1, 1.2.1
	The number of compliance, complaint and other inspections conducted annually will be recorded and compared against an established benchmark of 2000 inspections.	2224	2170	2000	July 1-June 30	Activity volume	Annual	Total number of applicators, both commercial and noncommercial, recorded and compared to benchmark of 2,800.	1.1.2, 1.2.2
	Implement sustainable IPM programs in selected SC school districts.	Schools in 3 school districts	Schools in 3 school districts	Schools in 3 school districts	July 1-June 30	Benchmarking	Annual	Total number of schools participating	1.1.2, 1.2.2
	Develop and maintain emergency preparation and response plans for agroterrorism or other emergency situations that may affect SC agriculture.	Training Completed	Training Completed	Training Completed	July 1-June 30	Government standards	Annual	exceeded the benchmark of 2,000 inspections. The total number of inspections (compliance, complaint, dealer, structural pest, marketplace, agricultural use, groundwater, lawn care, worker protection, record check,	1.1.2, 1.2.1, 1.2.2., 1.3.1, 1.4.1, 1.6.1
	Measure the number of repeat violators (structural compliance)	13%	8.60%	Less than 20%	July 1-June 30	Benchmarking	Annual		1.1.1, 1.2.1
	Provide a means for electronic submission of fertilizer, lime, landplaster and soil amendment tonnage reporting and payment. Likewise for seed and organic certification applications.	System online-implemented	System online-implemented	System online-implemented	July 1-June 30	Implementation complete	Annual	The percentage of structural pesticide applicators who, after receiving one enforcement action for a violation, receive one or more additional enforcement actions within the next 12 months.	1.3.1, 1.5.1

	Implement the new Soil Fumigation (Category 1D) licensing category requirements, to include development of an appropriate manual, examination and compliance assistance education program.	Successfully Implemented	Successfully Implemented	Successfully Implemented	July 1-June 30	Implementation complete	Annual	Administrative measure	1.1.2, 1.2.2
	Number of new premises registered by Livestock Poultry Health.	168	349	100	July 1-June 30	LPH reports	Annual	Total	2.1.1
	Total number of premises registered by Livestock Poultry Health.	5,643	6,060	5,743	July 1-June 30	LPH reports	Annual	Total	2.1.1
	Meet disease testing and trace back requirements for continued "disease free" status as specified in the code of federal regulations.	Requirements met	Requirements met	Requirements met	July 1-June 30	LPH reports	Annual		2.1.1, 2.2.1
	Conduct inspections and investigations at locations including livestock markets, exhibitions, sales, and on livestock farms throughout South Carolina.	779 inspections, farm visits, and investigations	898 inspections, farm visits, and investigations	450 inspections, farm visits, and investigations	July 1-June 30	LPH inspection reports	Annual		2.1.1, 2.2.1
	Inspection of meat and poultry plants and HACCP and SSOP records by inspector in charge and in-depth reviews of inspector and supervisor records.	100%	100%	100% daily inspection of all meat and poultry plants and records, when operating	July 1-June 30	LPH inspection reports	Annual		2.1.1, 2.2.1
	Meet NVSL (National Veterinary Services Laboratories) accreditation standards and criteria for technicians to be proficiency certified.	100% final pass rate achieved for all lab technicians on required proficiency testing for FY13-14	100% final pass rate achieved for all lab technicians on required proficiency testing for FY14-15	100% final pass rate of NVSL proficiency tests for procedures performed in Clemson Veterinary Diagnostic Center for which NVSL monitors test performance	July 1-June 30	NVSL test results	Annual	100% final pass rate of NVSL proficiency tests for procedures performed in Clemson Veterinary Diagnostic Center for which NVSL monitors test performance.	2.3.1
	Maintain AAVLD (American Association of Veterinary Laboratory Diagnosticians) Accreditation or achieve accreditation through alternate group with ISO 17025 standards.	AAVLD accredited	Not accredited	ISO 17025 Accreditation or AAVLD	July 1-June 30	Accreditating bodies	Annual		2.3.1
	Perform diagnostic procedures which are required for marketing of livestock and poultry, maintenance of "disease free" status, ensuring a safe meat supply, and assisting veterinarians and producers in diagnosing and treating diseases in animals.	92,708 diagnostic procedures; 98.9% of those procedures were regulatory/production animal related	95,551 diagnostic procedures; 99% of those procedures were regulatory/production animal related	Perform 80,000 diagnostic procedures. Over 90% of those procedures will relate to production animals	July 1-June 30	LPH reports	Annual		2.1.1, 2.2.1, 2.3.1
	Identify disclosures of new products and processes associated with the project results generated by its faculty.	14	9	The number of disclosures is not easily predicted.	July 1-June 30	Experiment Station Existi	Annual	The data is compared to the projected number of disclosures.	3.1.1., 3.2.1, 3.3.1, 3.4.1

	Number of patent applications and awards associated (Patent Actions)	9	0	Number of patent applications and awards is difficult to predict.	July 1-June 30	Experiment Station Existing Data	Annual	The data is compared to the projected number of patent applications and patents awarded. The data demonstrates the discovery of new knowledge and its exclusivity to South Carolina, and it is an indication of the merit of the discoveries submitted.	3.1.1., 3.2.1, 3.3.1, 3.4.1
	Number of license agreements signed for technology reflected in patents.	2	1	Number of license agreements signed is difficult to predict.	July 1-June 30	Experiment Station Existing Data	Annual	The data is compared to the number of licenses which are projected to be signed. The data demonstrates the application of new knowledge and it is an indication of the merit of the new technology.	3.1.1., 3.2.1, 3.3.1, 3.4.1
	Number of technical contributions related to research.	119	105	Number of technical publications accepted for peer-reviewed publications is not a predictable variable.	July 1-June 30	Experiment Station Existing Data	Annual	The number of technical contributions are aggregated, and the results are evaluated using projected targets based upon historical data.	3.1.1., 3.2.1, 3.3.1, 3.4.1
	Number of new plant varieties developed.	21	0	Number of plant varieties developed is difficult to predict.	July 1-June 30	Experiment Station Existing Data	Annual	Activity volume	3.1.1
	Participants completing livestock and forages programs will report a gain in knowledge and skills	96%	93%	80%	July 1-June 30	Livestock and forages evaluations/CAMM exams/CUMIS	Annual	Number of participants gaining knowledge divided by the number who attended the program	4.1.1
	Persons completing sustainable horticultural programs will report a gain in knowledge and skills	87%	82%	80%	July 1-June 30	Horticulture evaluations/CUMIS	Annual	Number of participants gaining knowledge divided by the number who attended the program	4.2.1
	Persons completing sustainable agronomic production programs will report a gain in knowledge and will apply skills learned	86%	91%	80%	July 1-June 30	Agrocnomic crop evaluations and number of acres affected	Annual	Number of people reporting acres affected	4.3.1
	Participants in the pesticide applicator training program will increase knowledge and receive certification as a result of participating in educational programs	94%	99%	80%	July 1-June 30	Pesticide application evaluations	Annual	Number of participants gaining knowledge divided by the number who attended the program.	4.3.1
	Participants attending food safety training will be certified in safe food handling.	92%	98%	80%	July 1-June 30	Food safety training exams	Annual	Number participating divided by number passing tests. Potential cost of outbreaks per establishment.	4.4.1
	Graduates from the EFNEP Program will show improvement in one or more nutrition practices.	75%	81%	75%	July 1-June 30	Dietary recall records; pre/post tests	Annual	Number showing improvement divided by the number participating	4.4.1
	Participants who complete Community, Leadership and Economic Development (CLED) programs will report knowledge gained.	100%	76%	80%	July 1-June 30	Community and economic development program evaluations/CUMIS	Annual	Number of participants gaining knowledge divided by the number who attended the program	4.5.1

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Agency Name: Clemson University - PSA

Agency Code: P200 Section: 045

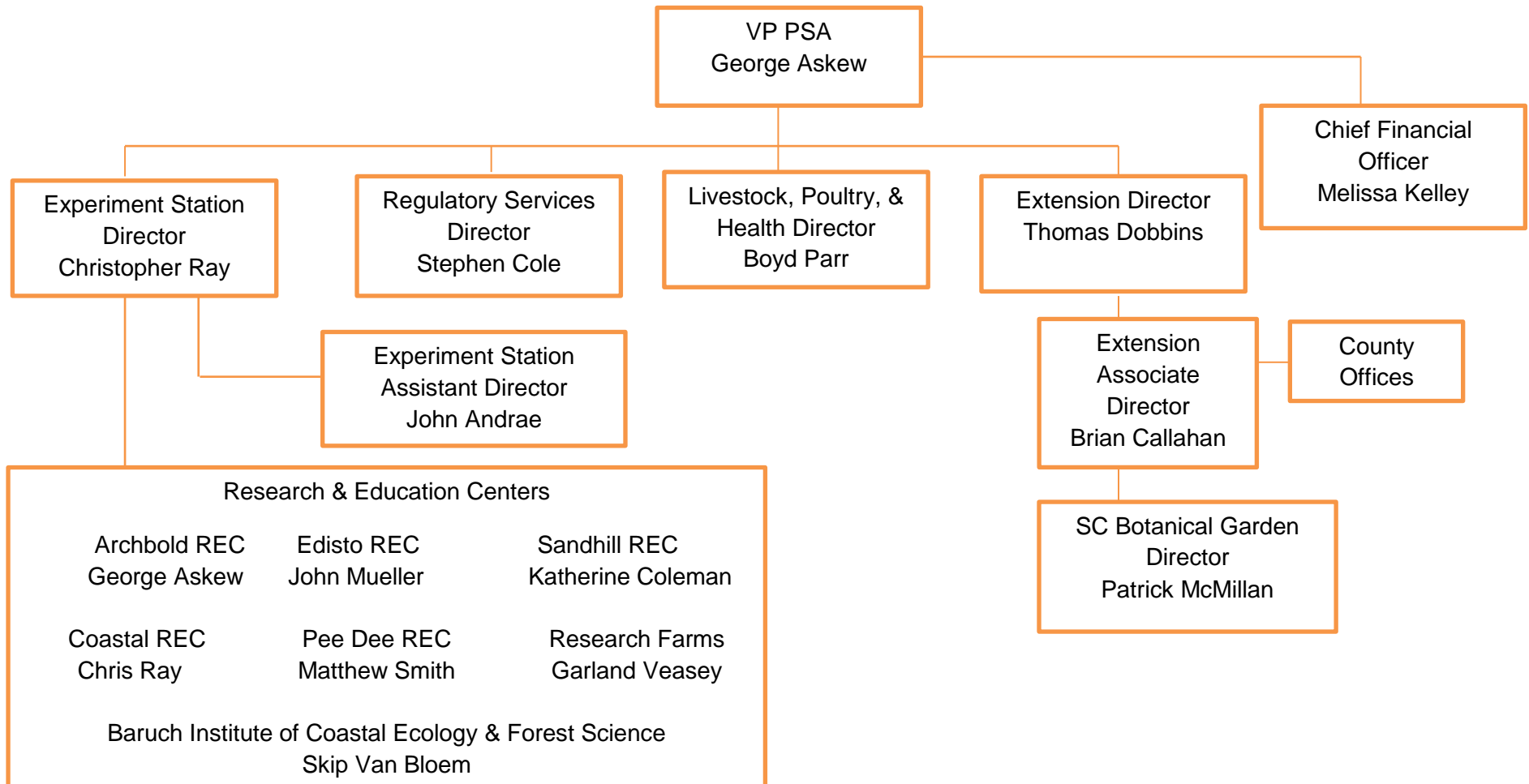
Fiscal Year 2014-15
Accountability Report

Program Template

Program/Title	Purpose	FY 2013-14 Expenditures				FY 2014-15 Expenditures				Associated Objective(s)
		General	Other	Federal	TOTAL	General	Other	Federal	TOTAL	
I.A. Regulatory Services - General	Regulatory Services protects the state from exotic and invasive species, ensures that pesticides are used safely, regulates the structural pest control industry, verifies that fertilizer and lime meet standards and labeled guarantees, conducts programs for seed and organic certification, provides diagnosis of plant pests, and ensures readiness to respond to a catastrophic event impacting the state's agriculture.	\$ 702,986	\$ 4,279,968		\$ 4,982,954	\$ 719,775	\$ 4,748,698		\$ 5,468,473	All Goal 1 Objectives
I.B. Regulatory Services - Restricted	Regulatory Services protects the state from exotic and invasive species, ensures that pesticides are used safely, regulates the structural pest control industry, verifies that fertilizer and lime meet standards and labeled guarantees, conducts programs for seed and organic certification, provides diagnosis of plant pests, and ensures readiness to respond to a catastrophic event impacting the state's agriculture.			\$ 1,028,154	\$ 1,028,154			\$ 952,533	\$ 952,533	All Goal 1 Objectives
II.A. Livestock-Poultry Health - General	The role of the Clemson Livestock Poultry Health (LPH) is to protect animal health through control of endemic, foreign, and emerging diseases in livestock and poultry and to protect the health of S. C. consumers by providing a comprehensive inspection service to ensure that meat and poultry products are safe, wholesome and accurately labeled.	\$ 2,979,721	\$ 303,017		\$ 3,282,738	\$ 3,055,272	\$ 445,651		\$ 3,500,923	All Goal 2 Objectives
II.B. Livestock-Poultry Health - Restricted	The role of the Clemson Livestock Poultry Health (LPH) is to protect animal health through control of endemic, foreign, and emerging diseases in livestock and poultry and to protect the health of S. C. consumers by providing a comprehensive inspection service to ensure that meat and poultry products are safe, wholesome and accurately labeled.			\$ 2,151,807	\$ 2,151,807			\$ 2,272,022	\$ 2,272,022	All Goal 2 Objectives
III. Agricultural Research	The role of Clemson's Experiment Station is to conduct research to develop relevant, science-based information that improves the state's economy by enhancing agriculture and forestry production, and natural resources management	\$ 13,778,626	\$ 4,485,897	\$ 3,896,191	\$ 22,160,714	\$ 14,397,991	\$ 5,224,401	\$ 5,027,972	\$ 24,650,364	All Goal 3 Objectives
IV. Cooperative Extension	The role of Clemson Extension is to transfer science-based information from the Experiment Station, Livestock-Poultry Health and Regulatory Services to commercial growers, livestock producers, land managers and individuals so that clientele can use the information to improve their well-being.	\$ 13,820,853	\$ 12,574,029	\$ 6,670,244	\$ 33,065,126	\$ 14,698,612	\$ 5,812,823	\$ 6,309,769	\$ 26,821,204	All Goal 4 Objectives



PSA Organizational Chart



Appendix

Clemson University Public Service Activities (PSA) internal accountability system

PSA utilizes the web-based assessment management system as do all other University administrative and academic units. The online system captures standard program-level assessment areas: mission, outcome/objectives, measures/findings, action plan, and analysis. It has expanded capabilities in linking to larger institutional perspectives within each program's outcomes/objectives. This system allows every department and unit at Clemson the opportunity to link to: general education competencies, professional accreditation standards, institutional priorities (goals), and institutional and college strategic plans.

Unit information is submitted to the Clemson University Office for Institutional Assessment. Each unit must complete an initial plan and a self-assessment of their efforts each year. At the end of a reporting period, each unit must report why they did or did not meet those objectives and explain what improvements they will make based on the results of that knowledge.

Information becomes a part of the strategic planning stage for PSA through assessment completion and review by unit heads and other administrators. PSA also uses the Clemson University Management Information System (CUMIS). This online system was developed for assessment reporting to the U.S. Department of Agriculture. It collects and tracks data for the Clemson University Cooperative Extension Service, including number of programs conducted, number of participants completing programs, knowledge gain, and adoption of practice as a result of participation.

See this link for University Assessment <http://www.clemson.edu/assessment/weave/>

University Performance: Clemson University is assessed by multiple constituencies. The University is subject to accreditation reviews for both individual disciplines and the University as a whole. In addition, students, alumni and other external partners register their response to institutional performance through alumni surveys, student focus groups, and donations.

ZOOM IN/OUT AND SCROLL TO VIEW FULL DOCUMENT		*ASSESSMENT RUBRIC: guidance for assessment programming, reporting and evaluation NOTE: This instrument is intended for internal Clemson University audiences only.				ZOOM IN/OUT AND SCROLL TO VIEW FULL DOCUMENT			
STATUS / RATING	ASSESSMENT PLANNING				IMPLEMENTATION	CLOSING THE LOOP: TAKING ACTION ON ASSESSMENT INSIGHT			
	MISSION	GOALS	OBJECTIVES / OUTCOMES	MEASURES / ACHIEVEMENT TARGETS	FINDINGS	ANALYSIS	REPORTING	ACTION PLANNING	ANNUAL REPORT
BENCHMARK: Each academic program and administrative unit is required to submit an annual assessment report which should contain the elements noted in columns in this rubric. Assessment typically targets student learning, teaching and/or program improvement.	A guiding statement that is aligned and consistent with university / college / department mission(s), and aligned with relevant professional organizations (as applicable).	At least one Goal should be linked to each theme in Mission. More than one goal is recommended. Goals forge connections between the Institutional Mission Statement, the program/unit mission statement, and educational/process outcomes. Goals convey a clear picture of meaningful expectations; establish the focus of the program/unit, and provide direction to mission implementation.	At least one Objective / Outcome per goal. For educational programs , at least one objective/outcome should focus on student learning and be designated a Student Learning Outcome in WEAVE. Program outcomes are brief, clear, precise, measurable, and descriptive statements that relate to the skills, knowledge and behaviors that students acquire in their progression through the program. Whenever feasible, result-oriented statements are preferred and should be stated with action verbs that convey what the student is to know, think, do, or value as a result of the experience.	At least one Measurement / Target per goal. Each measurements / targets should be mapped to at least one objective / outcome. Assessment should include multiple measures and data gathering techniques. Measures can be direct, indirect, and / or administrative. Measures that target a cognitive domain may utilize Bloom's Taxonomy.	At least one actionable Finding should be reported each year to demonstrate that assessment has been conducted and results in program / student learning change. One finding per Target is preferred.	Responses to analysis questions must adequately demonstrate that improvement in programming and/or student learning is being made based on assessment results/findings. Record should specifically identify curricular/program change(s) as a result of assessment. Analysis should also include the review and discussion of outstanding Action Plans from previous years.	Assessment results and syntheses of analyses should be shared with appropriate stakeholders at least annually. An Action Plan is required when Findings are reported as 'partially met' or 'not met.' Also should be created when new improvements are being planned and / or implemented that will benefit the Mission, Goal(s), and / or Outcomes / Objectives. If all targets have been met, an action plan is still required that will focus on improving a new program and/or student learning theme such as infusing technology in the teaching/learning environment or programming. Another example might include the addition of a research learning outcome to enhance the student educational experience.	This section is your opportunity to close the assessment loop and address "So what?" questions. Context and elaboration should be provided regarding your assessment results which make a case for the merit and value of your programs and activities, and provide rationale for future directions in serving institutional priorities. Note: This section includes multiple elements which all must be completed. An uploaded document in WEAVE can be used to reduce double-entry but should be referenced in relevant element sections.	Action Plans from previous years should also be reviewed and discussed.
NONCOMPLIANT	No mission statement is provided.	No Goal is provided.	No Objective/Outcome is provided. For education programs, at least one student learning objective (SLO) is required.	No Measure/Achievement Target is provided.	No finding is provided unless assessment is intentionally not conducted annually.	Analysis section is incomplete or not provided.	No mention of assessment reporting outside annual institutional assessment reporting (WEAVEonline).	No Action Plan is provided. Note: Even if all targets are met, a new action plan must be provided.	Section is not fully populated or no information has been provided.
DEVELOPING	General statement of program intent; does not identify stakeholders; does not demonstrate clear alignment with university / college/ department missions; too general to distinguish the program or too specific to encompass the entire mission.	Goals poorly aligned with statement of mission; too many or too few goals; too vague (restatement of mission elements) or too specific (expression of outcomes/objectives); goals lack clear association to assessment cycle.	Describes a process rather than an outcome; is not measurable or verifiable; lacks clear means by which to determine whether the outcome/objective has been met; does not address breadth of knowledge, skills or services associated with the program; too few outcomes/objectives; lacks clear associations with relevant program goals, general education competencies, institutional priorities, and strategic plans.	Measures not established for all outcomes/objectives; measurement tools/instruments not developed and/or vaguely described; little or no use of direct measures, particularly involving student learning outcomes; course grades used as an assessment method.	At least one finding reported with adequate detail.	Analysis questions are poorly answered and do not clearly/adequately answer how assessment findings are used to make improvements to programs and/or student learning.	Some assessment results are made available but not readily pushed to all stakeholders.	An action plan is provided for each target that is 'partially met' or 'not met.' If all targets have been met, at least one new action plan must be provided.	Section is fully populated but does not richly address so-met' or 'not met.' what questions and does not provide context and elaboration regarding assessment results.