

## CEARS (Agency 234) 6-year Plan (2015):

### Expanded Narrative

- 1. Provide meaningful experiential learning opportunities for students in the College of Agriculture through paid internships and assistantships that improve practical learning experiences related to their fields of study, thereby improving academic competencies, retention/graduation rates and providing meaningful support of Extension and Research in the School of Agriculture. Utilize Agricultural Research Station and Virginia Cooperative Extension research and outreach education opportunities by engaging a minimum of 30% of students in research projects and educational outreach activities in the College of Agriculture. Continue partnership efforts with state agencies and private companies to increase the number of paid internship opportunities for students. Utilize USDA Agricultural Liaison to increase scholarship and internship opportunities with USDA Agencies. Obtain a minimum of \$25,000 to support micro-enterprise development opportunities for students within the College of Agriculture.**
  - \$145,500K raised in 2014/15 to support student learning – These funds will be used to support student scholarships, student professional development and micro-enterprise development opportunities. Major donors include: TowneBank, the Virginia Farm Bureau (and local farm Bureaus), VSU Agriculture Alumni, and private donations that total \$23,000.
  - Farm Stars Initiative - Extension faculty members have developed and implemented the Farm Star initiative for the 3<sup>rd</sup> year in a row to provide students in the College of Agriculture with paid internship opportunities and experiential learning in the areas of production, harvesting and marketing/sale of agricultural products. Students are getting first-hand experiences on what it takes to be an entrepreneur. The student-run farmers market continues to generate more than \$5,000 annually in sales during the summer months.
  - Agriculture Research Providing Experiential Learning Opportunities to Virginia State University Students - As in previous years, Agricultural Research continued a strong program of employing student workers in 2015. They work in laboratories and at Randolph Farm in the field. They take care of crops and livestock, they collect and test samples, and they enter and analyze data. Student workers get valuable training that prepares them for the job market or further education after they graduate. Since January 1, 2015, twenty undergraduates and four graduate students have worked at Agricultural Research Station. These students come primarily from the Department of Agriculture, but there are also student workers from other departments such as biology and chemistry.

Ms. Arieyana Carter, a double major of Biology and Dietetics (Department of Biology and Department of Family Consumer Science), won first place for her oral presentation in Agriculture, Forestry and Aquaculture Section at Virginia Academy of Science 93rd Annual meeting held at James Madison University on May 21-23, 2015. Arieyana's presentation was entitled, "Changes in physicochemical, nutritional, anti-nutritional and antioxidant properties

during vegetable soybean development stages.” She was assisted in her presentation by Dr. Yixiang Xu and Dr. Edward Sismour, from the COA’s Agricultural Research Station.

- Small Farm Outreach Extension Program (SFOP) and student learning - In an effort to provide Agriculture students with experiential learning, SFOP employed nine (9) students in 2014/15 through grant funds to work with the program. These students accompany SFOP agents to farm sites to learn the practicality of production, value addition and marketing.
- Study Abroad Program – Hospitality Management – Students in the Hospitality Management Program traveled to Cost Rica in 2014 (4 students), China in 2014 (three students) and Morocco in 2015 (4 students). Students learn first-hand about the international travel and tourism and culinary industries during these professional development opportunities. The program is supported by external grant funding.
- Summer Youth Programs - The Agricultural Research Station is hosting the AgDiscovery Summer Enrichment Program for the fourth year. AgDiscovery is a USDA-APHIS-funded program for teens who are interested in agriculture and related sciences, and VSU is one of seventeen universities across the U.S. to host an AgDiscovery program. VSU’s AgDiscovery program focuses on the animal, veterinary and food sciences. Forty teens, ages 14 to 17, applied for the sixteen slots in our program and sixteen were selected for the program. The 2015 participants come from Virginia (7), from North Carolina (4), 2 come from Florida, 2 from Maryland and one from Arizona. The group works closely with VSU faculty and staff both on campus and at Randolph Farm, participating in hands-on activities with our Aquaculture, Small Ruminant, and Food Science researchers. They take field trips to such varied destinations as consolidated labs, a zoo, a dairy farm, and food processing plants, all the while meeting and working with professionals from a variety of fields related to animal care, veterinary science and food science. During their time at VSU, the AgDiscovery participants experience a taste of college life through living in the dorms on campus and dining in Gateway Dining Hall.

The Agriculture Summer Enrichment Program, designed to introduce high school students to agriculture as a field of study is in full swing with 20 participants. 2015 is the first year the program will run as a residential camp, allowing students to fully experience VSU life on campus. As a result of this camp being hosted during the past two summers, three students enrolled at VSU and are majoring in agriculture.

The Hospitality Management Bridge Summer Program, designed as a one-week residential camp to provide an overview of the hospitality management and travel and tourism industry, is hosting 10 students this summer. The student participants will tour many aspects of the industry, including culinary and restaurant management, hotel management,

- Marketing and Communications Department Focus on Student Recruitment -Our newly formed Marketing and Communications Department has increased the reach of the College of Agriculture. Our social media followers have doubled and activities have increased dramatically. This has led to an increase in the number of participants for our extension programs. Our

communications and marketing director has taken a proactive position and has expanded contacts with media outlets.

To aid in our student recruitment efforts, we created a 14-page Agriculture Department eViewbook and branded printed flyers for the academic departments of agriculture and hospitality management.

In January 2015, we officially launched our Extension Connection newsletter magazine. The magazine has been distributed to approximately 8000 Virginians. The publication provides useful information that keeps Virginian's up to speed on new innovations, learning opportunities and success stories at the College of Agriculture, as well as information on upcoming workshops and activities for cooperative extension.

- 2. Develop research programs in food, nutrition, nanoscience and human health to reduce obesity and chronic diseases. Develop alternative agriculture enterprises in berry production and marketing to meet the health conscious needs of the public and increase the number of limited resource farmers in profitable berry production. Continue the development of partnerships between VSU Food Science Division and Virginia agricultural and food-based industries to develop safe packaging and safe food handling practices utilizing nanotechnology and food safety research. Utilize Virginia Cooperative Extension to prepare students majoring in Agriculture, Hospitality Management, Family and Consumer Science Extension and Dietetics and Nutrition programs to conduct educational outreach and technical assistance to address issues food safety, obesity and nutrition issues in low-income rural and urban communities. Partner with Virginia Tech to develop a plan to address the issue of "Food Deserts" in Virginia. Continue to serve as the link that supports the growth of the Virginia Berry Grower's Association to foster the development of a viable berry industry in the state of Virginia. Increase research to improve the profitability of small-scale food processors and goat producers to enhance economic development in Southside Virginia. Increase research in the areas of small ruminant production, processing and marketing as an alternative agricultural enterprise for limited resource farmers and farm families in Virginia. Focus research to address limited research-based information on appropriate management practices applicable to the environmental conditions of the mid-Atlantic region. Focus efforts to address issues related to gastrointestinal parasites and anthelmintic resistance on sheep and goat farms in Virginia and Southeastern United States, year round-grazing and forage opportunities and the identification and development of infrastructure to assist farmers with processing and transporting goats to regional processing facilities.**
- Food Desert Task Force - In 2012, Delegate Delores McQuinn introduced House Joint Resolution 88 and then in 2013 reintroduced House Joint Resolution 646 to request that the Virginia General Assembly review the issue of food deserts in Virginia. At the direction and request of The Honorable William Howell, Speaker of the House of Delegates of the Virginia General Assembly, the College of Agriculture partnered with Virginia Tech and industry and community

leaders across the Commonwealth to address concerns related to healthy families in Virginia. In response to Speaker Howell's direction, a committee charged with researching and addressing the issue of food deserts (areas or pockets in Virginia where it is often difficult to access fresh, healthy and affordable foods). During January 2014, our report was presented to members of the General Assembly where our findings and recommendations were embraced. Our findings were also shared with the Commonwealth's First Lady who shares our concerns and our passion for addressing this important issue.

The College of Agriculture worked closely with Jesse Vaughan to develop a documentary to bring light to the issue of food deserts in Virginia. This documentary debuted during the Richmond International Film Festival in March 2015 to wide enthusiasm. The documentary screening attendees included the Governor, the First Lady and their family as well as a number of legislators, government officials, partnering organizations and the general public. To date, the documentary has been viewed by over 8,000 on YouTube. As a result of the documentary, VSU received positive news coverage in most central Virginia print and TV media outlets and we were able to increase the awareness of the food desert problem and VSU's role in helping to find a solution.

Also in March 2015, the Virginia Food Systems Council was deemed the lead agency responsible for coordinating future efforts and to move the implementation of recommendations from the Food Desert Study Report forward. VSU's College of Agriculture will continue to play an important role in supporting this effort.

- Harding Street Indoor Urban Farm Project - Virginia State University is working to bring fresh food to Petersburg residents through a rehabilitation of the Harding Street Community Center into an urban farm. The farm is expected to open summer 2015, and will use indoor growing techniques to provide produce and fish to city residents, who will then be given the skills to start their own gardens. The former gymnasium now houses hydroponics and other advanced equipment to help address the food deserts, or area of low access to fresh produce and groceries, in the city.
- Urban and Sustainable Agriculture - One Extension faculty in the area of Urban and Sustainable Agriculture published three Extension papers on raised-bed gardens to assist in making information available to Extension agents and producers. This program assisted in developing/enhancing two urban agriculture projects in Richmond, Virginia where 60 individuals will be trained in urban and sustainable agriculture and conducted two workshops on community and urban gardening. The faculty has submitted a \$350,000 proposal to NIFA-USDA for capacity building grants program funding.
- Marketing and Agribusiness - The Extension Faculty has trained and mentored five Virginia Cooperative Extension agents who have trained 423 of their clientele in developing farmer's market display, websites, marketing plans, and value-added product marketing. We assisted the City of Suffolk to procure \$25,000 to address food desert issues in that city through relevant and practical education. About 150 individuals benefited from the education provided. We also

assisted members of three organizations in developing proposal writing skills which resulted in them submitting three proposals totaling over \$250,000 to establish farmer's markets.

- Specialty Crops - Extension faculty in the Greenhouse and Specialty Crops planned and hosted gardening segment on Farm Bureau produced TV show "Real Virginia". In the first two quarters of 2015, the segment reached 100,000+ gardeners on broadcast and social media. Topic areas included production of onions, strawberries, greenhouses, compost, soil testing and making salsa. The faculty visits and consults with both farmers and urban growers in the areas of aquaponics, hydroponics, vegetable production, greenhouse construction/management and berry production. Approximately 100 persons/farms were given information and assistance. The program has made presentations to various audiences at conferences and workshops that were national, state and regional. Ten presentations were made to approximately 500 persons on aquaponics, hydroponics, high tunnels and greenhouse management.
- Virginia Berry Growers Association - Extension Specialists have assisted more than 50 farmers in the commercial production of berries. The specialists have received USDA grant funding which has been used to assist berry producers in establishing the Virginia Berry Growers Association and the Virginia Farmers Market Managers Association. Both associations are helping farmers in organizing themselves for the production and marketing of berries. The College of Agriculture held a Commercial Vegetables and Berry Field Day at the University during summer 2014 and 2015; a total of approximately 750 small farmers and berry producers, and potential producers, many of whom are interested in niche markets participated during the annual conferences.

Extension faculty continued to work with producers to increase their knowledge of best management practices in Berry production. The faculty continues to work closely with 50 small farmers who are growing berry as a result of the assistance; they received a grant that was awarded to the faculty. A total of 120 grant proposals were submitted for funding and 25 grant proposal were selected for funding.

During the past three years, berry producers have generated approximately \$100,000 from the sale of berries. The College of Agriculture continues to pursue the objective.

- Small Farm Outreach Program - The Virginia State University's Small Farm Outreach Program provides outreach, training, and technical assistance to small, limited-resource, and socially disadvantaged farmers and ranchers to improve the profitability and sustainability of the farming enterprises. The program staff provided leadership for a Small Farm Field Day (June 16, 2015) that highlighted several of our activities for the year so far. More than 400 producers participated in the field day. The farmers received information on expanding local markets, farm loans and grants, and risk management. Producers also learned about no-till production techniques, maximizing profits in minimal space. Since January 2015, SFOP has provided training, technical assistance, and other services to 1,883 producers in Virginia. In addition to state funding for the SFOP, staff brought in \$1,123,430 in grants and cooperative agreement funds to support the projects. SFOP has just submitted a proposal in the amount of \$400,000 to USDA and currently working on two other grants concurrently for a total amount of \$305,000.

The SFOP Demonstration Project has helped several farmers and students learn about the production of high value produce through cost-efficient and environmentally friendly techniques in order to maximize profits. From the first harvest this year, SFOP has donated produce worth \$721.00 to 2 feeding programs in Petersburg and Richmond.

- New Leadership in Cooperative Extension – The College of Agriculture recently hired a new Director of Marketing and Communications. Since that time the College of Agriculture has significantly increased its contacts with Extension audiences and stakeholders. Further, a new external communication entitled, “The Extension Connection” has provided updated research and information pertaining to programs in the College of Agriculture. In addition, Cooperative Extension hired a new Assistant Administrator of Programs to help guide and oversee the vision and direction for the Extension programs at VSU.
- Small Ruminants Program - Extension faculty conducted six workshops and presentations which provided training for 130 sheep and goat producers in the following topic areas: Non-chemical approaches to parasite control; Advanced reproductive techniques; Lambing; Sheep and Goat Nutrition and Integrated Parasite management. A website (<http://tinyurl.com/lambuary2015>) centered around lamb with the aim of raising consumer knowledge about U.S. sheep production, awareness on how to prepare tasty lamb dishes as well as where to find local sheep producers was developed. We provided hands-on training in conducting fecal egg counts and provided certification on use of the FAMACHA© eye scoring system to 21 sheep and goat producers and VCE agents. Submitted a proposal to USDA seeking \$250,000 for designing and building a mobile slaughter processing unit (MSPU) at Virginia State University (VSU) to educate and enhance profitability of Virginia’s small ruminant industry.

Enhance research to assist small producers to increase market share through value-added practices, bioprocessing, crop diversification, development of new crop varieties and biofuel production. Utilize USDA (NIFA), Virginia Tobacco Commission, and private grant funding opportunities to identify and research new, alternative, drought resistant and bioenergy crops in Virginia that are in high demand both regionally, nationally and internationally. Utilize Virginia Cooperative Extension to conduct education programs and provide technical assistance to small farmers to assist them with niche crop development, agricultural diversification opportunities and bioenergy crop processing opportunities.

- Chickpea research - Chickpea is a food legume and is a major ingredient in hummus, a Middle Eastern and Arabic food dip or spread. SABRA Dipping Company, which manufactures and distributes hummus worldwide, opened a new facility in Chesterfield to solicit the aid of farmers to grow chickpeas to meet production demands. This has created a potentially-profitable, sustainable opportunity for Virginia farmers. Research and field trials have been conducted at Virginia State University to determine the optimal processing method for hummus preparation. The effect of using modified atmosphere packaging (insertion of a modified gas into a package’s headspace) is being investigated for extending product shelf life. Preliminary research indicates that modified atmosphere packaging can extend shelf life and improves quality (color and

texture). During summer 2014, Virginia farmers produced the first successful stand of chickpeas in the tobacco growing regions of Virginia. VSU continues its third year of field trials with Virginia growers

**3. Strengthen and expand the use of information technology to make Extension and Agricultural Research more accessible to Virginia's residents and expand the use of technology in delivering programs and services to the Extension and Agricultural research stakeholders. Launch two online programs in Agribusiness and Economics and Hospitality Management. Utilize VSU Mobile Technology Lab to offer financial management and business practices for small and limited-resource farmers and families throughout rural areas in the state of Virginia.**

- The College of Agriculture improved the information technology infrastructure of the Mobile Computer Laboratory. The technology upgrade included 12 new computers and a new satellite system. The new upgraded satellite system enabled the Mobile Computer Laboratory to have access to the internet in rural areas of Virginia where the old system had poor or no internet connection. The lab provides computer services to stakeholders as well as provides training in the use of computers and various applications. It is regularly used by Cooperative Extension and the Small Farm Outreach Program to provide small business development training, financial management training and to certify farmers market managers to receive SNAP benefits. Additionally, it is used throughout the state of Virginia to recruit students to VSU and the College of Agriculture.

**4. Expand international research and educational activities to further contribute to the globalization of the School of Agriculture/University and enhance the prestige of the United States in the global world. Develop global partnerships to benefit Virginia's agriculture and improve food security. Seek external funding through USDA/NIFA federal grant opportunities to continue assistance to countries in Africa, China and Haiti to research and produce drought and pest resistance crops, to safely handle plant, animal and aquatic products, assist universities in other countries to develop and utilize the "land-grant" model and obtain infrastructure to assist challenged international communities with food storage and safe food processing and handling. Include opportunities for students to engage in international research in grant proposals.**

- Extension faculty and staff are conducting applied research on a variety of non-traditional crops including ginger, long beans, and turmeric that may have a potential as alternative commercial crops in Virginia. The College of Agriculture will continue to pursue this objective.
- The College of Agriculture has continued to establish global partnerships that will eventually benefit Virginia and help in the University's commitment to globalization and to help in making the world better. During 2014-2015, partnerships have been initiated between The College of Agriculture and the Department of Rural Development and Agrarian Reform in the Province of

the Eastern Cape, South Africa, and OSUN State Polytechnic in Nigeria. Formal partnerships were established to focus on faculty and student exchanges, mutual research opportunities and joint Extension activities.

5. **Expand the Family Financial Management Program to train individuals and families facing challenging economic situations. Strengthen and expand the Family Financial Management program to include small business development for rural communities and youth. Re-launch and provide personnel for the rural development program to assist rural residents, co-ops and youth to launch and sustain agriculture-based businesses. Work with Small Farm Outreach program to include financial and business management and farm transition training to rural communities. Expand the Child and Human Development Programming by providing training to individuals who deliver care to low income families, children and the elderly. Assist childcare providers in adhering to changing federal and state child care and safety requirements. Assist individuals who deliver care in low income families to provide safe and nutritious foods.**
- Family and Consumer Sciences - Extension Faculty in child and Human Development introduced Early Childhood Educators, Family Home and Center Child Care Providers, Center Directors, and others were introduced to initiatives that connect very young children with local food and farms, provide fresh healthy food and child care meals, and teach young children about the farmers who grow foods.

The Extension faculty provided over 100 consultations and contacts regarding child and youth development, child and youth services, and family functioning and family dynamics with parents, school officials, social services, health, faith-based and nonprofit child serving agencies.

The Grandparents Raising Grandchildren Support Group Program led by Extension faculty resulted in improvements in several family stability, adolescent behavior, and child protection and child services situations. Consultations and meetings with health and social services departments resulted in appropriate school placements, foster care placement, medical services, education programs etc. for children and youth. 26 contacts were made with 6 grandparents regarding securing child and youth services.

The Extension faculty is involved in a partnership effort with Virginia Commonwealth University Behavioral Health to develop and implement a five year grant to study the obesity issue in Petersburg, the locality with the highest obesity and chronic disease rates.