

## Virginia Cooperative Extension Report

December 2023

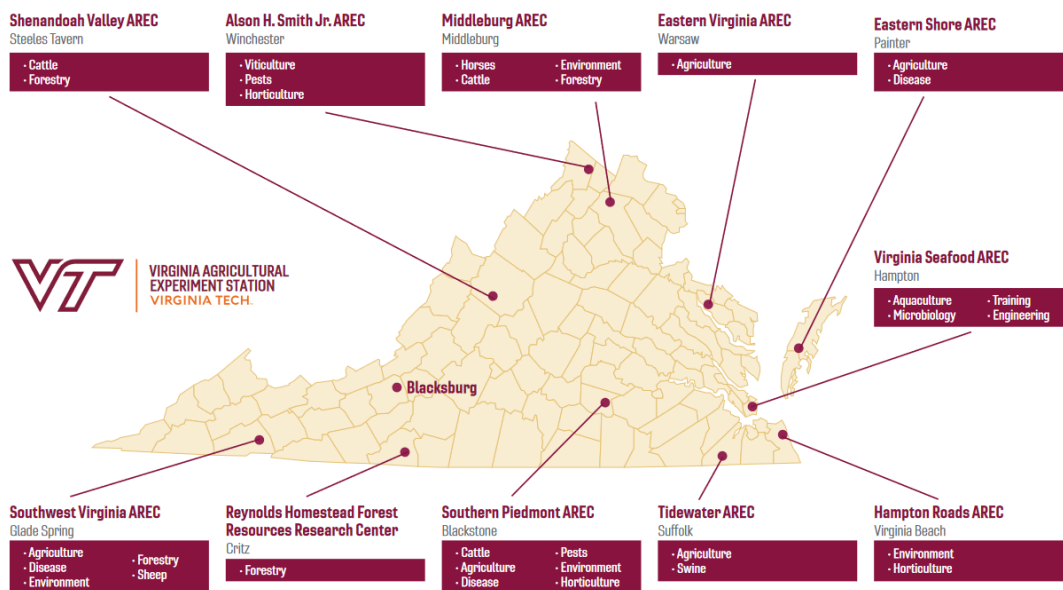
### Virginia Agricultural Experiment Stations

The Virginia Agricultural Experiment Station conducts research on food and fiber systems, their impact on the environment, and their relation to the future needs of Virginia, the nation, and the world. There are 11 Agricultural Research and Extension Centers in the Commonwealth of Virginia affiliated with the Virginia Tech Colleges of Agriculture and Life Sciences, Natural Resources and Environment, and the Virginia-Maryland College of Veterinary Medicine. In addition, Virginia State University owns and operates Randolph Farm, the site of important research and Extension activities.

AREC faculty and staff, along with faculty based at the main campus, deliver research and Extension programs at these sites, which represent the commonwealth's diversity and take advantage of the unique characteristics and challenges found in each location. The ARECs serve not only as field-research sites and field laboratories for undergraduate and graduate students, but also as program sites for producers, school groups, and the state's citizens.

### Agricultural Research And Extension Centers (ARECs)

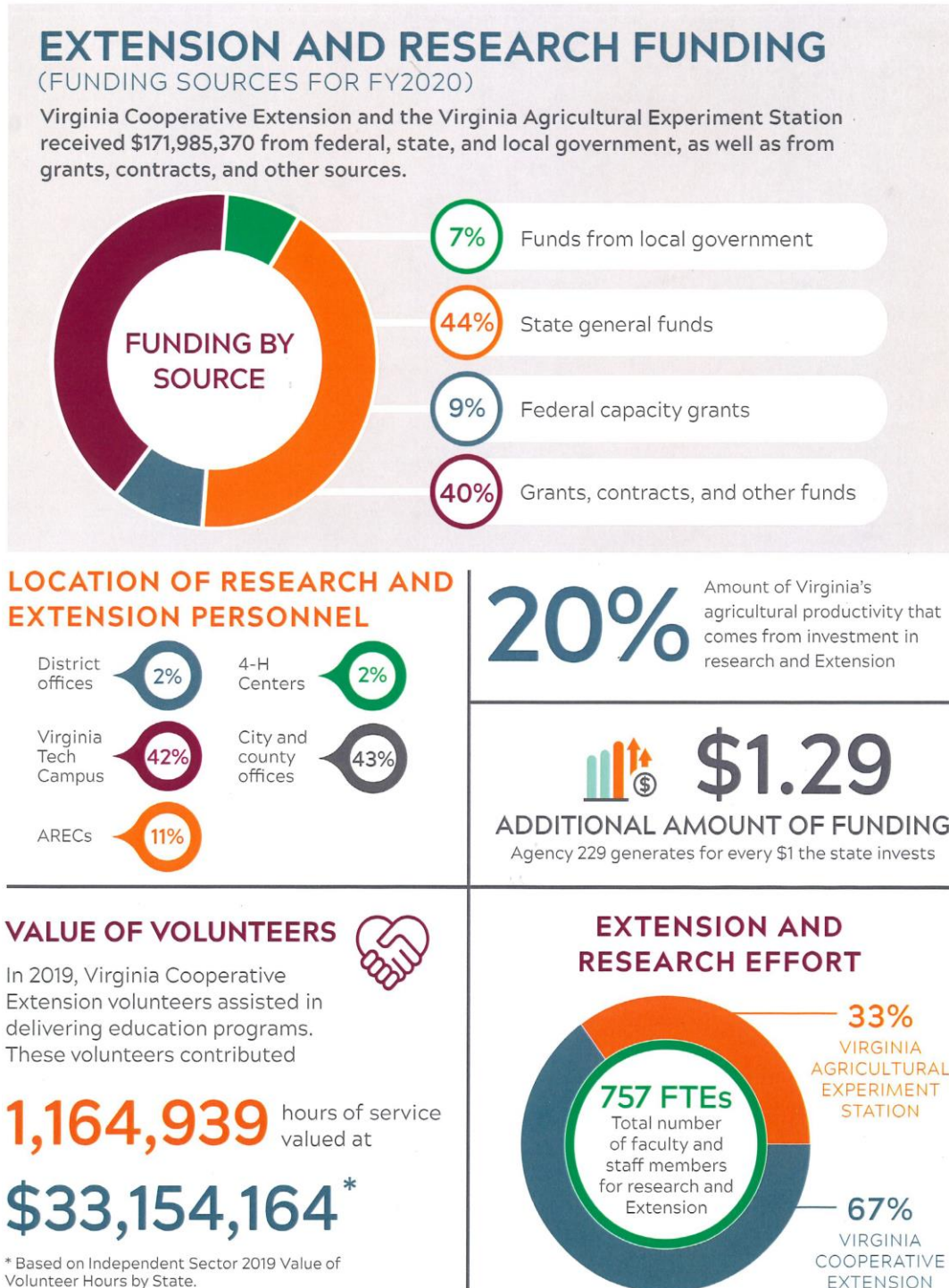
Virginia Agricultural Experiment Station



As part of this report I will share two videos that provide an overview and introduction to AREC's in the Virginia's Tidewater region, host site for the 2023 VASWCD and Virginia Soil and Water Conservation Board meetings.

## Agency 229

Together, VAES and Virginia Cooperative Extension are known as Agency 229 for budget purposes. The partnership between VAES and VCE creates a highly effective means for communicating and teaching new techniques with instant and lasting impact in local communities.





# HAMPTON ROADS

Agricultural Research and Extension Center



The Hampton Roads AREC addresses water management, pest control, and production practices for horticultural crops and landscapes.

Faculty members work closely with the Virginia Nursery and Landscape Association, the Virginia Turfgrass Council, AmericanHort, and the Virginia Strawberry Growers Association, among others. Master Gardener volunteers help maintain the arboretum, butterfly garden, tree trail, and 10 other demonstration gardens that are open to the public.

A plant pathologist addresses nursery diseases and tactics to reduce disease inoculum in recycled irrigation water. A horticulturist utilizes rain gardens and other sustainable techniques to demonstrate water management in landscape settings. Modeling and managing urban stormwater for cities and watersheds in Virginia is a top priority for the AREC's water engineer. An entomologist addresses new insect pests that target nursery crops, while a weed scientist conducts research to control troublesome weed species in ornamentals, turfgrass, and fruit production. The evaluation of new strawberry and blackberry varieties for the region, along with alternatives to methyl bromide fumigation, are under the purview of the AREC's small fruit specialist.

Jeffrey Derr and Adam Nichols conduct turfgrass research at the station in conjunction with their turf team colleagues in Blacksburg. Weed management and cultivar evaluation experiments are conducted each year and are shown at an annual field day in June. Trials are conducted primarily on tall fescue, bermudagrass, zoysiagrass, and St. Augustine.

## PARTNER WITH US

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Virginia Beach, VA 23455  
(757) 363-3900  
[www.arec.vaes.vt.edu/arec/hampton-roads](http://www.arec.vaes.vt.edu/arec/hampton-roads)



"The environmental horticulture industry acknowledges and appreciates Chuanxue Hong and his research team's dedication to helping nursery and landscape managers better manage boxwood blight. Their work - from using mulch to finding biological controls and developing educational materials - helps ensure that boxwood, the most important evergreen shrub, production and use will continue."

**JILL CALABRO, PH.D.**  
SCIENCE & RESEARCH PROGRAMS DIRECTOR  
AMERICANHORT AND HRI



"Laurie Fox and Master Gardener volunteers maintain a wide range of demonstration gardens at the station, including a butterfly garden, tree trail, vegetable garden, annual flower evaluations, and a woody plant arboretum, among other gardens. These gardens are open to the general public and receive thousands of visitors each year."





# HAMPTON ROADS AREC AT A GLANCE



## DISCIPLINES

- Nursery crops
- Pest management
- Small fruit production
- Stormwater management
- Turfgrass maintenance

## INNOVATIVE TECHNOLOGIES

- Anaerobic soil disinfestation
- Digital image analysis
- Solar-heated greenhouse
- Stormwater modeling
- Use of drones

## FACILITIES

- 7 laboratories
- 7 greenhouses
- 3 classrooms
- Container and field research areas

## INDUSTRY PARTNERS

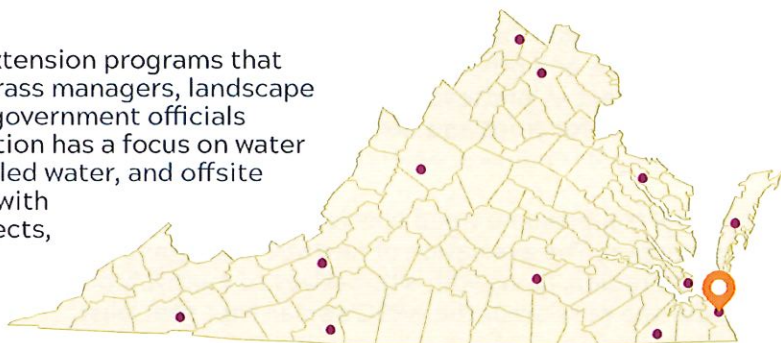
- Nursery industry
- Lawn care
- Landscape industry
- Strawberry producers
- City governments

## ABOUT THE HAMPTON ROADS AREC

The Hampton Roads AREC conducts research and extension programs that benefit container and field nursery producers, turfgrass managers, landscape maintenance firms, small fruit producers, and local government officials addressing urban stormwater management. The station has a focus on water use, including irrigation efficiency, diseases in recycled water, and offsite movement of nutrients. Faculty members also work with horticultural crops, addressing disease, invasive insects, and weed pests.

## A COLLABORATIVE NETWORK

The ARECs are a network of 11 centers strategically located throughout the state that emphasize close working relationships between Virginia Agricultural Experiment Station, Virginia Cooperative Extension, and the industries the work with. The mission of the system is to engage in innovative, leading-edge research to discover new scientific knowledge and create and disseminate science-based applications that ensure the wise use of agricultural, natural, and community resources while enhancing quality of life.



Virginia Cooperative Extension programs and employment are open to all, regardless of age, color, disability, gender, gender identity, gender expression, national origin, political affiliation, race, religion, sexual orientation, genetic information, veteran status, or any other basis protected by law. An equal opportunity/affirmative action employer. Issued in furtherance of Cooperative Extension work, Virginia Polytechnic Institute and State University, Virginia State University, and the U.S. Department of Agriculture cooperating. Edwin J. Jones, Director, Virginia Cooperative Extension, Virginia Tech, Blacksburg; M. Ray McKinnie, Administrator, 1890 Extension Program, Virginia State University, Petersburg



VIRGINIA AGRICULTURAL  
EXPERIMENT STATION  
VIRGINIA TECH.





# VIRGINIA SEAFOOD

## Agricultural Research and Extension Center



Naser Bayoumy works to improve hatchery live feeds production in support of a growing aquaculture industry. (Photo courtesy of Virginia Sea Grant).

The VSAREC is actively engaged with industry and research partners to address a variety of stakeholder needs. A major pillar of our program is ensuring seafood safety and product quality. We engage in product testing, sanitation, technical assistance, validation of processes, value-added product development, and employee training in an effort to help our stakeholders ensure the quality and safety of their products.

In addition to food and seafood safety, the VSAREC is also involved in aquaculture research and development. Recognized as a center of excellence for live feeds and hatchery production technologies, the VSAREC is venturing further into the microbiology of aquaculture production systems. The aquaculture program is highly adjustable and responsive to stakeholder needs, with the capacity to operate freshwater, brackish, and saltwater systems.

VSAREC programming also covers the areas of economics, business development, and marketing. Current research activities include assessing the regulatory challenges faced by U.S. aquaculture producers at the farm level.

### PARTNER WITH US

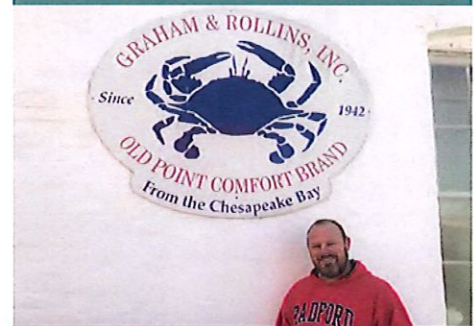
102 S King Street Hampton, VA 23669  
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[www.ares.vaes.vt.edu/ares/virginia-seafood](http://www.ares.vaes.vt.edu/ares/virginia-seafood)



"VSAREC Extension and research activities assist our seafood industry at the local, national, and international levels. Our program is focused on using cutting-edge technologies for rapid detection of bacteria and mitigating foodborne illnesses."

**REZA OVISSIPOUR**  
ASSISTANT PROFESSOR  
EXTENSION SPECIALIST  
FOOD AND SEAFOOD SAFETY



"Virginia Tech is vital to our business. From sanitation practices to validation tests and employee training, they do it all. We are so fortunate to have them as next door neighbors."

**CASEY GRAHAM**  
VICE-PRESIDENT OF  
GRAHAM AND ROLLINS, INC.



# VIRGINIA SEAFOOD AREC AT A GLANCE



## DISCIPLINES

- Food and seafood safety
- Microbiology
- Process validation
- Engineering
- Green energy
- Aquaculture
- Economics
- Business and marketing

## INNOVATIVE TECHNOLOGIES

- Process validation
- Vibrational spectroscopy
- Nano-bubble and electrolyzed water

## FACILITIES

- Microbiology lab
- Recirculating aquaculture systems
- Aquatic habitat systems
- Classroom for teaching and training

## INDUSTRY PARTNERS

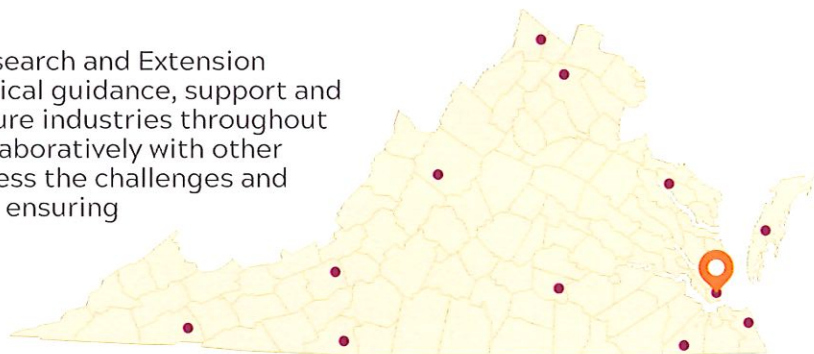
- Aquaculture
- Seafood processors
- Seafood distributors
- Seafood retailers
- Seafood end-users and consumers

## ABOUT THE VIRGINIA SEAFOOD AREC

The mission of the Virginia Seafood Agricultural Research and Extension Center is to provide education, scientific, and technical guidance, support and leadership to the commercial seafood and aquaculture industries throughout Virginia and the United States. Our faculty work collaboratively with other researchers, Extension agents, and industry to address the challenges and needs of our seafood and aquaculture stakeholders; ensuring safe and wholesome seafood for all of us to enjoy.

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