

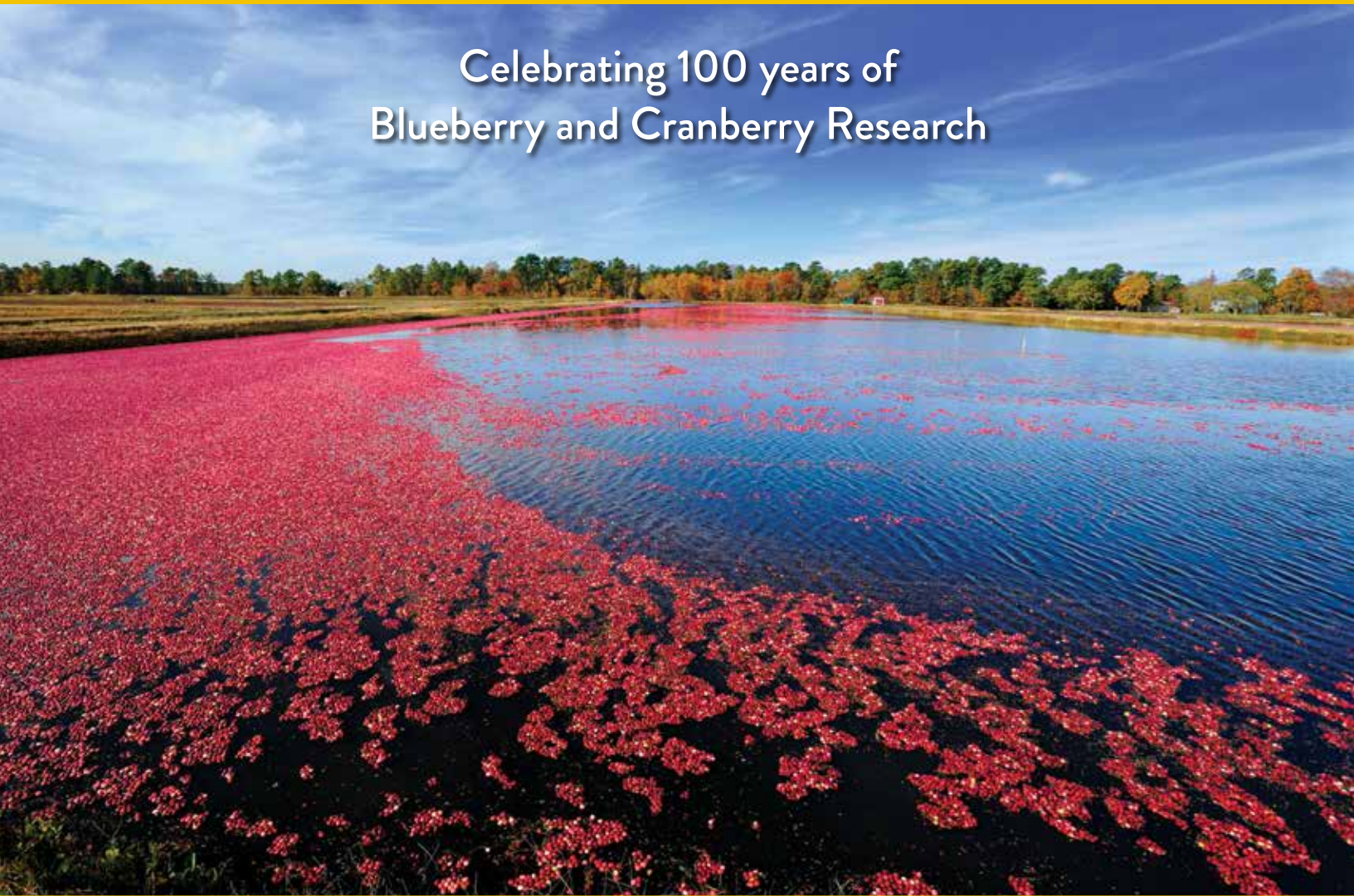


RUTGERS

New Jersey Agricultural
Experiment Station

New Jersey Agricultural Experiment Station

Celebrating 100 years of
Blueberry and Cranberry Research



2018 Annual Report



ROBERT M. GOODMAN

Executive Director, New Jersey Agricultural Experiment Station

Rutgers NJAES is focused on the critical task of promoting and strengthening agricultural diversity in the Garden State through relevant, quality research and extension activities. The experiment station conducts exciting research in plant breeding, food innovation, business incubation, and sustainable fisheries management alongside vigorous outreach to both traditional and new audiences. Rutgers Cooperative Extension has made meaningful strides in serving newer constituencies in areas like family nutrition and health, as well as youth development and STEM education in our urban communities. Together with statewide stakeholders in all 21 New Jersey counties, NJAES is committed to excellence in bringing science-based solutions and education to residents across the state.



CHRISTOPHER J. MOLLOY

Interim Chancellor, Rutgers University–New Brunswick

Across the state, the New Jersey Agricultural Experiment Station facilitates the growth of New Jersey's economy, prosperity, and quality of life for residents. Whether it's developing the renowned Rutgers tomato or helping grow the state's economic activity, NJAES continues to be an invaluable asset to New Jersey. In combination with its statewide community engagement and continuing education programs, NJAES has sown these seeds of success for more than 130 years, and continues to reap and share this bounty for the benefit of all. Although its roots are based in New Jersey, they ambitiously and victoriously stretch across the nation and the globe, far beyond the Garden State.



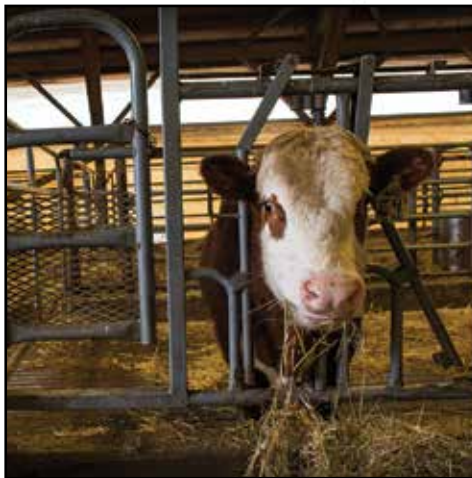
DOUGLAS H. FISHER

New Jersey Secretary of Agriculture

Rutgers' support of the agricultural community in New Jersey continues to play a vital role in the development and protection of the industry in the Garden State. The vital partnership the NJAES has with our farmers and growers is essential for renewable success in the field. Rutgers' role in soil, plant, and crop development allows New Jersey to remain among the top 10 producers in the U.S. in several categories, including horticulture, floriculture, and several fruits and vegetables. The dedicated field and research staff at Rutgers is highly valued and continues to elevate New Jersey's agricultural status.

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DID YOU KNOW

njaes.rutgers.edu



INNOVATION FOR OVER 100 YEARS

Plastic-covered greenhouses were an economical alternative to glass, but sheeting had to be replaced due to wear and tear from wind. In 1964, agricultural engineer Bill Roberts tried blowing air between two layers of plastic, and pulling them taut. Today his “air-inflated, double-layer polyethylene greenhouse” is the leading system for commercial greenhouses worldwide.



NJAES expert John B. Smith enabled construction of the Panama Canal by controlling mosquitoes that were the cause of devastating outbreaks of yellow fever, which threatened to shut down the project. Today, proactive research continue to enable rapid response to vector-borne disease (e.g., West Nile virus).



Injury or death from breeding bulls was commonplace on U.S. dairy farms. In 1938, dairy husbandry specialist Enos Perry introduced artificial insemination (AI) from Europe, working with North Jersey dairy farmers to form the first U.S. farmers’ artificial breeding cooperative. AI allowed for selective breeding and eliminated the need to maintain dangerous bulls on dairy farms.



The NJAES turfgrass breeding program has been one of the world’s most extensive since 1962. Professor C. Reed Funk was the first to hybridize Kentucky bluegrass and initiated a new class of “turf type” ryegrasses that revolutionized the use of perennial ryegrass for sports, fine turf, lawn, and landscape.

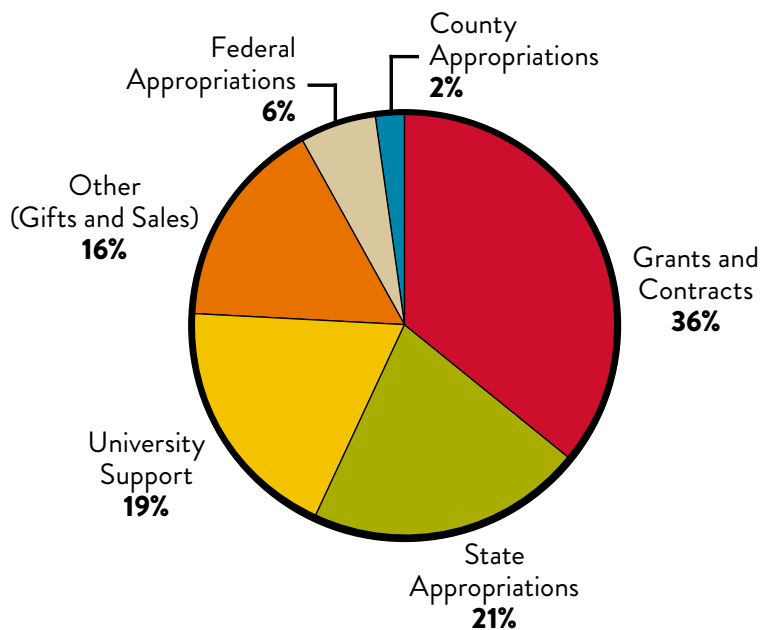


NJAES FINANCIAL SUMMARY

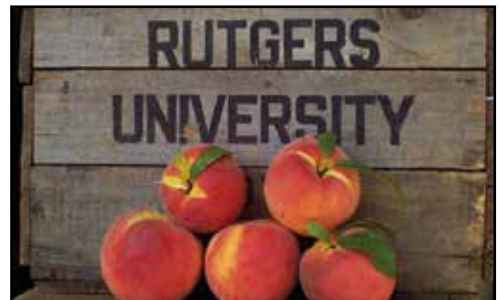
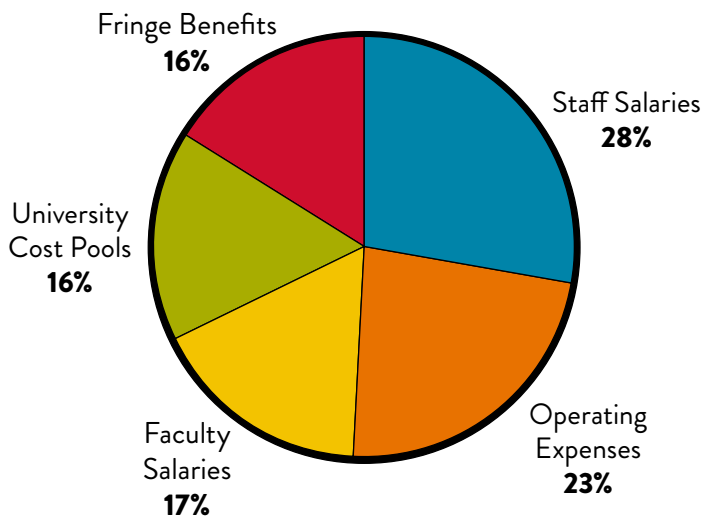
Research and Extension Funding Sources and Expenditures for 2018

NJAES relies on a combination of funding sources, particularly grants and contracts, and will continue to rely on a combination of public and private funds, appropriately balanced and focused, to address critical issues in New Jersey. NJAES received \$102.3 million from grants and contracts, Rutgers University support (fringe and operational), a combination of state, federal and local government, as well as gifts, endowment revenue, income from sales and services activities, and patent and plant licensing income.

FUNDING SOURCES



EXPENDITURES



RUTGERS

New Jersey Agricultural Experiment Station

2018 NJAES is a Catalyst for Economic Growth and Innovation in New Jersey

ECONOMIC IMPACT

EACH \$1 of state investment in NJAES research and outreach

77% OF STATE INVESTMENT is returned to the state through tax revenue generation

CREATES \$10 in economic growth

RESEARCH

\$54 MILLION total grant funding in FY 2018 from federal, state, and other sources

EXTENSION

42,000 YOUTH participated in 4-H programs

600,000 HOURS+ donated to 4-H programming by volunteers

INNOVATION

42 total licensed technologies

\$5 MILLION royalties in FY 2018 for NJAES technologies

211 total patents

An Investment for Our Future

For more than 100 years, investment in NJAES research has sustained innovative work that strengthens economic viability and improves public health. NJAES researchers strive to gain a deeper understanding of our physical world, identify ways in which humans affect our planet, and develop multi-dimensional solutions to address real-world problems. NJAES has a vigorous program of applied research and outreach through its statewide centers (for example: labs, research farms, business incubators, and extension offices).

INVESTMENT AREAS

Agricultural Informatics - New Investment Area!

Application of innovative technologies, data analysis, and drones to increase the profitability of agricultural business through greater efficiency, more informed decision making, and enhanced risk management.

Business Development through business incubation for 20 years. Targeted investment in the Food Innovation Center and EcoComplex has benefited over 3,000 businesses, resulting in new products, new innovations, job creation, and environmental sustainability, as well as business establishment, retention, and recruitment that benefit the state economy.

Cranberry Breeding Program established in 1918. Due to long term NJAES investment, Rutgers cranberry varieties are now planted on approximately 600 of New Jersey's 3,000 acres of cranberry bogs. Rutgers cranberry varieties yield 50 to 100 percent more than traditional varieties, resulting in additional revenues of between \$2.5 and \$5 million annually going directly to New Jersey cranberry growers.

Hazelnut Research started in the 1970s. Now, as a result of sustained investment, an innovative agricultural sector is about to be launched that can provide new revenue-generating opportunities for New Jersey farms of all sizes.

Oyster Breeding Program was launched with an initial investment in 1888. This NJAES commitment was critical in initially building New Jersey's oyster industry. Strides in this area supported industry recovery through the development of disease-resistant oysters and contributed to the revitalization of Delaware Bay water quality through oyster planting programs.

Vector Biology has more than 100 years of investment. As a result of NJAES funded research of vector organisms, such as ticks and mosquitoes, threats to public health from pathogen transmission have been greatly reduced. The innovative mosquito control approach developed by the NJAES Center for Vector Biology has reduced populations of invasive Asian tiger mosquitoes in some areas by an impressive 75 percent.



First Field is a start-up that launched with the help of the Rutgers NJAES Food Innovation Center.



MARGARET BRENNAN-TONETTA

Associate Director
Director, Economic Growth
and Development

Long-term investment by NJAES in science, business development, and community outreach generates benefits for New Jersey and spurs economic growth. For instance, over the last 20 years, NJAES investment in business incubation has benefited thousands of companies. These programs help start-ups launch their businesses, which adds value to the community and contributes to a thriving economy. By supporting innovation and entrepreneurship, NJAES supports statewide economic development.



A new hazelnut variety is about to be released by the Rutgers NJAES hazelnut breeding program.

COMMERCIAL AGRICULTURE



A Century of Support for New Jersey's Native Fruits

Cranberries and blueberries are two of New Jersey's leading crops, with the state ranking among the top 10 producers nationally. These fruits are unique in that they are both native to New Jersey, and are mostly grown—not on rolling farmland in rural counties—but rather in the backwoods of New Jersey's Pinelands. Elemental to the success of these industries has been a century of support from the NJAES substation established in Whitesbog in 1918, and now located in Chatsworth—the Philip E. Marucci Center for Blueberry and Cranberry Research and Extension. Cutting-edge research enables growers to protect their crops and enhance yields, while also advancing these industries on national and international levels.

The Marucci Center houses a cadre of Rutgers researchers, technicians, graduate students, and support staff, as well as USDA researchers. For example, Nicholi Vorsa, director of the center, conducts cranberry and blueberry breeding, and studies their genetic enhancement and phytochemistry. His program has released six patented cranberry varieties with increased productivity and fruit quality, which are grown in the U.S., Canada, Chile, and New Zealand.



Christine Constantelos examines spores from cranberry fruit rotting fungi, an integral part of the work of the plant pathology lab.



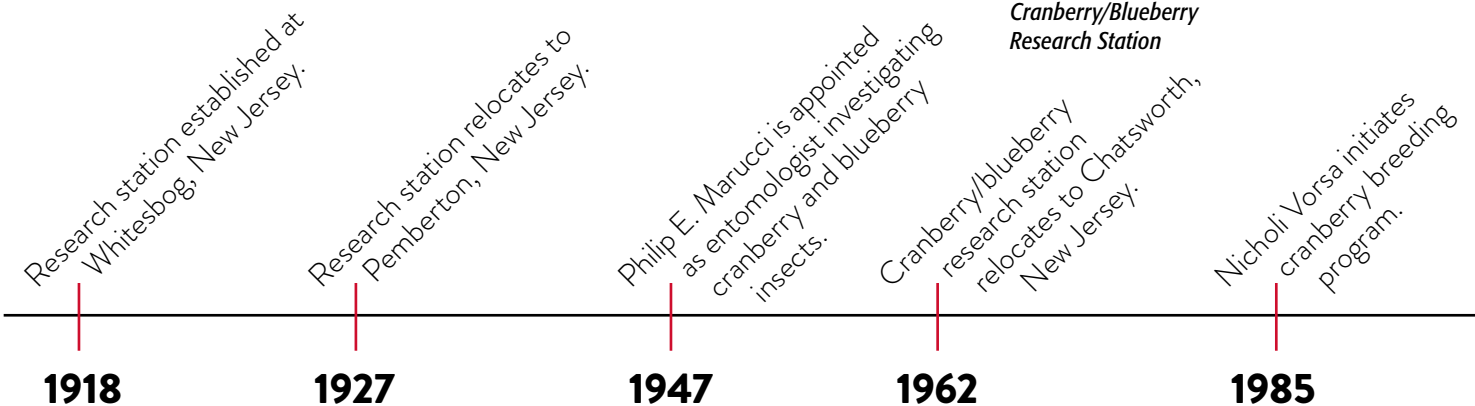
Philip E. Marucci



Research bog at the Cranberry/Blueberry Research Station



Nicholi Vorsa





Rutgers blueberry variety developed for machine harvest.

Peter Oudemans directs the small fruit pathology program, developing methodologies to reduce the impact of plant disease and improve fruit quality. Oudemans' research has made significant strides using remote sensing for detecting, mapping, and understanding the impact of plant disease on growing these crops in the environmentally-sensitive Pinelands.

Cesar Rodriguez-Saona leads the entomology program, focusing on cost-effective, reduced-risk pest management practices through the integration of chemical, behavioral, and biological methods in insect control and a better understanding of the ecology of insect herbivores and their natural enemies.

Thierry Besançon has developed a new program of research and extension directed toward using the most modern, environmentally friendly methods for management of weeds that affect blueberry, cranberry, and other New Jersey specialty crops.

Research scientist Amy Howell focuses on the health benefits of cranberries, isolating polyphenolic compounds and determining their role in the prevention of urinary tract infections. She studies the pharmacokinetics and bioavailability of cranberry proanthocyanidins to determine sites of action and dose-response, as well as the influence of cranberries on enhancing the potency of antibiotics.



BRADLEY I. HILLMAN

Senior Associate Director,
Director, Research

NJAES research programs support all of our central mission areas, while allowing us to be responsive to emerging issues such as new invasive species, impacts of climate shifts, and the changing needs of the agricultural community. At their core, our research programs are funded by state and federal appropriations but increasingly rely on competitive grants, royalty returns, and contracts. Partners like the New Jersey Department of Agriculture, The New Jersey Farm Bureau, the industry, and grower groups increase the visibility and impact of our NJAES research.



Nicholi Vorsa and Amy Howell



Crimson Queen®



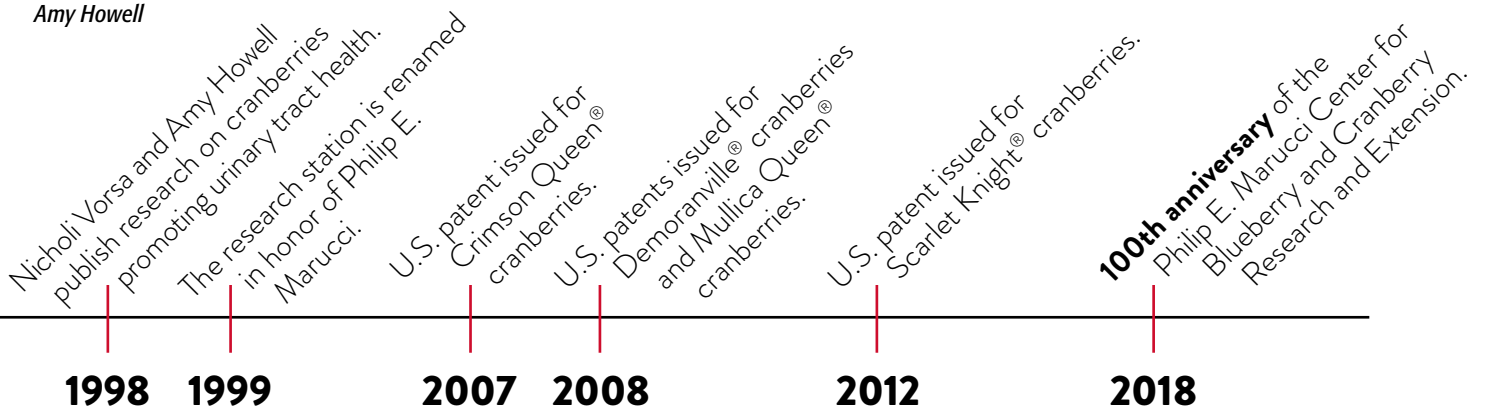
Demoranville®



Mullica Queen®



Scarlet Knight®





Brown marmorated stink bugs.

Combating Environmental Threats Facing New Jersey

“The Center for Vector Biology is truly a flagship program.

In addition to its longstanding competency in mosquito biology and control, it has been instrumental in other key areas of public health entomology.

Recently, the center provided national leadership in calling attention to the public health importance of the exotic Asian longhorned tick, originally discovered in New Jersey and now spread to eight more states across the U.S.”



C. Ben Beard, M.S., Ph.D.,
Deputy Director, Division of
Vector-Borne Diseases, CDC

Ever since the science of mosquito control was established by the first Rutgers professor of entomology more than a century ago, researchers in Rutgers Entomology’s Mosquito Research and Control Program—since renamed the Center for Vector Biology (CVB)—have worked seamlessly with mosquito control programs in all 21 New Jersey counties. The CVB’s scope of work has broadened over the years to include identification and documentation of other disease vectors such as ticks and invasive agricultural pests.

CVB members research pest and pathogen ecology, evolution, and control in a state-of-the-art laboratory that develops and uses DNA-based tools to detect disease vectors and the pathogens they transmit, ranging from West Nile virus to Lyme disease. They recently documented in New Jersey the exotic Asian longhorned tick and the northward expansion of southern U.S. mosquito species, and are developing strategies for their control. In addition, CVB scientists collaborate with other entomology and ecology faculty using the same DNA-based tools to detect agricultural pests such as the brown marmorated stink bug, whose genetic signature can be found in the water used to rinse harvest crops.

CVB scientists are perennially called upon to forecast mosquito populations, and when crises arise—think Zika—they are the go-to experts locally, nationally, and internationally. After their discovery of the longhorned tick, CVB scientists conducted critical early surveillance and research efforts on this exotic tick and organized a statewide “Tick Blitz” that assessed the feasibility of statewide tick surveillance.





Melvin Delivillar SEBS'19, entomology professor Dina Fonseca, visiting entomology professor Andrea Egizi, and Christian Suru SEBS'19 sweep for ticks in a field for the Center for Vector Biology Tick Research.

Boots on the Ground

The Department of Entomology was established in 1888 as part of the NJAES. Through the years, faculty have studied a wide variety of economically important insects—including, but not limited to, mosquitoes—and have invested significantly in discovering best practices to control mosquito populations in concert with the State Mosquito Control Commission. The Rutgers Center for Vector Biology is applying this vast research on the ground to real-world challenges. One such example is a program developed with the town of Highland Park called **Citizen Action through Science** (Citizen ACTS) that's intended to mobilize neighbors, guided by scientists, to address local problems, such as mosquito control.

Funded by the National Oceanic and Atmospheric Administration, the CVB is working very closely with the Jacques Cousteau National Estuarine Reserve, The Rutgers Center for Remote Sensing and Spatial Analysis, and the mosquito control programs of Monmouth, Ocean, and Atlantic counties to examine the effects of sea level change on salt marsh mosquitoes.



BRIAN J. SCHILLING

Senior Associate Director,
Director, Cooperative Extension

New Jersey's diverse physical environment combined with a large population spread across 565 municipalities presents a complex tapestry of environmental issues, ranging from sound land and resource stewardship to community resiliency to sustainable economic growth. Increasingly important are the roles NJAES researchers and county Extension offices serve in detecting and managing exotic and invasive species that pose potential risks to human health or create economic harm.





Supporting Sustainable Aquaculture While Protecting Wildlife

Farmed oysters and clams are a popular seafood delicacy. New Jersey farmers take advantage of the state's clean coastal waters to raise the hard clam and the Eastern oyster. These coastal locations are also home to many iconic wildlife species, including horseshoe crabs and migratory shorebirds. During the 2018 spring horseshoe crab spawning migration, associate professor Daphne Munroe and a team of students carried out experiments to test how horseshoe crabs move among oyster farms to access inshore spawning habitats. These experiments, supported by funding from New Jersey Sea Grant and Cape May County, will help uncover the ways in which intertidal oyster farms interact with coastal wildlife species. The overall goal is to gather important data to inform management decisions, both to protect wildlife and support sustainable aquaculture farming practices.

Rutgers undergraduate Josh Daw measures and marks horseshoe crabs in preparation for an experiment.

Breeding Oysters for Cold Resistance

Rutgers has been breeding oysters for disease resistance since 1960 at the Haskin Shellfish Research Laboratory (HSRL). The lab has produced several disease-resistant strains, such as NEH[®], which show significantly improved survival and are widely used by oyster farmers. However, oysters face other challenges besides diseases. Oysters farmed on intertidal flats in the northeastern region are exposed to harsh winter conditions, and cold air and icy conditions are implicated in severe mortalities of cultured oysters. This past winter was particularly cold, with ice covering oyster cages at Cape Shore flat for more than 10 days at a time. The severe cold led to adult oyster mortality rates of 30 to 50 percent on some farms. While the heavy winter mortalities were unfortunate losses for the oyster farmers, they provided an opportunity for HSRL to focus on breeding cold resistance. The genetics team at HSRL, led by professor Ximing Guo, collected the survivors and used them to initiate a breeding program for cold resistance this year. Progeny from the survivors will be deployed at Cape Shore flats for continued exposure to wintery conditions and for continued monitoring and selective breeding. By improving cold resistance of Rutgers' disease-resistant strains, the goal is to significantly reduce overwinter mortality for oyster operations and to ensure more resiliency in oyster farming worldwide.



"The work of Rutgers scientists has been and continues to be invaluable in guiding practice policy in support of sustainable oyster aquaculture in the state."

Betsy Haskin,
Oyster farmer and daughter of the late Harold "Doc" Haskin, renowned NJAES oyster biologist.



DAPHNE MUNROE

Associate Professor,
Marine and Coastal Sciences
Haskin Shellfish Research Laboratory

Shellfish fisheries and aquaculture are among the greenest protein sources in today's global food economy, and New Jersey is at the forefront of that production. New Jersey is home to some of the largest and most lucrative wild commercial shellfish fisheries and supports a healthy and growing shellfish farming community. At NJAES, Rutgers researchers work closely with the fisheries and farming communities, conducting local ecological research to support sustainable strategies for fishing, farming, and management to foster continued success.

Wave of Women Oyster Farmers

Oyster aquaculture is on the rise, as is a cultural shift from oyster fishing to oyster farming. There is also an increasingly visible gender shift, as women oyster farmers gain prominence in a traditionally male-dominated bay scape. Recent national features, including those appearing in National Public Radio and *Vogue*, have called attention to women who are seemingly drawn to both nurture and nature. Strong, independent, adventurous, hardworking, and attentive are words oyster farmer and NJAES aquaculture program coordinator Lisa Calvo uses to characterize her farm's predominantly female crew.

All-female summer interns at a New Jersey oyster farm.





The Paterson school district saves approximately **91,000 pounds of food** resulting in a savings of **\$76,000.**

Sara Elnakib, family and community health sciences educator, Passaic County.

Maximizing the Benefits of Curbing Food Waste

In addition to the economic cost of food, there is the additional cost in resources such as land, water, labor, and transport that is not often factored into the cost of food waste. With global solid waste generation accelerating, and organic waste contributing significantly to the problem, continued use of landfills for organic waste is unsustainable. NJAES is tackling this issue cooperatively on several fronts, from public school food service departments to anaerobic digestion energy solutions.

The Rutgers Department of Family and Community Health Sciences recently partnered with Paterson Public Schools to reduce food waste. Food service professionals from 15 schools participated in training focused on improved menus, more food choices, and the environmental cues (signage, food placement, food presentation) we use to make those choices. The training resulted in a 14 percent reduction in food waste in the district and over 350 pounds of food saved. Results also showed that kids ate better and healthier.

30-40%

of the food produced in the United States is wasted, resulting in a loss of **\$218 Billion** in food. – USDA

There's an additional cost in resources –**land, water, labor, and transport**– that is not often factored into the cost of food waste.



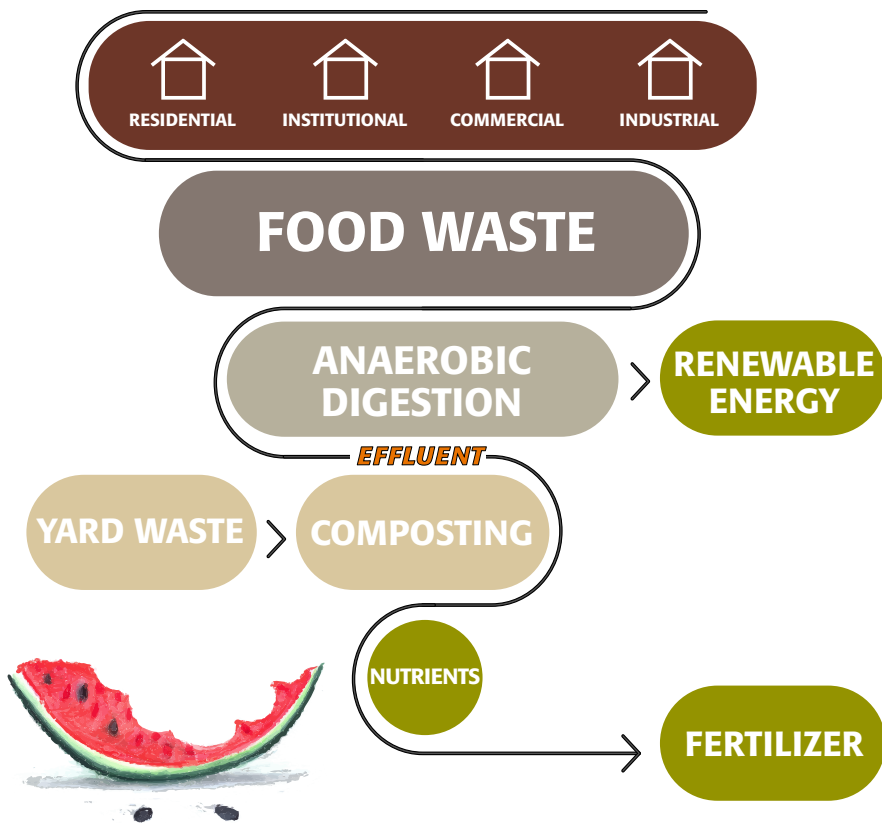
Rutgers' Snyder Farm produce donations to food pantries:

2017 113,943 lbs

2018 141,471 lbs

Food Waste = Clean Energy and Nutrients

What can be done with organic waste material that ends up in the trash? The Rutgers EcoComplex—designated a Clean Energy Innovation Center—has been researching the viability of converting organic waste to low-carbon energy and recovering nutrients through anaerobic digestion. This process would generate clean energy and produce clean nutrients that could be used for agricultural purposes.



SHERRI M. CIRIGNANO

Associate Director
Chair, Family and Community
Health Sciences

Navigating the ever changing landscape of food, nutrition, and health and how we serve our state residents is a challenge that is strategically considered by the Department of Family and Community Health Sciences. Increasingly, focus on food security and sustainability in our research and outreach has indicated a clear need to include the issue of food waste and its effect on society. All of these topics intersect and help guide our growing efforts towards finding solutions that promote wellness and well-being for all state residents.



“Working with Rutgers Cooperative Extension’s family and community health sciences department has been very fruitful. We have been able to train our staff on the latest research-based initiatives, and provide Paterson Public Schools students with healthy food they want to eat as well as help them make better choices for the rest of their lives.”



David Buchholtz,
Director of Food Services,
Paterson Public Schools.

YOUTH AND EDUCATION



Students participate in the “Cooking with Bacteria” class during the one-week residential program in 2014.

RCE Hosts 10th Annual STEM Ambassador Program



2018 STEM Ambassadors map the effects of storm damage from Superstorm Sandy in the Rutgers Ecological Preserve.

The 4-H STEM Ambassador Program is a yearlong Rutgers Cooperative Extension (RCE) initiative designed to support underserved and underrepresented high school youth in exploring their STEM (science, technology, engineering, and math) pathway. Launched in 2009 with a seed grant for Mercer County 4-H, the program was envisioned as an opportunity for traditionally underserved urban youth to learn more about STEM and explore college-level research, while gaining a better understanding of career opportunities available in STEM.

STEM Ambassadors engage in an immersive, one-week residential program on campus and interact with university scientists and engineers to solve real-world problems. Ambassadors then complete at least 50 hours of service in their communities, inspiring STEM learning in their peers and younger youth. They teach alongside 4-H staff and volunteers at countywide programs and summer camps, and host activity stations at community events and fairs. They also continue to participate in other opportunities including teen community service clubs, state conferences, and national 4-H events, and in some cases, these teens themselves begin their working careers with 4-H.

96% of 4-H STEM Ambassadors
stayed involved with their local 4-H program
teaching hands-on science to youth,
recruiting and training new science ambassadors,
and becoming 4-H club members.



4-H Prep Explorers get ready for their club meeting.

Happy Golden Jubilee to the 4-H Cloverbud Program

Fifty years ago, in the Somerset County 4-H Program, the idea to create a 4-H “preparatory” program was born. Aply called 4-H Prep, the program initially started with youth in grades one through three. The program grew nationally, later including kindergarteners and adopting its current name, the 4-H Cloverbud Program, which ties it to the highly recognizable clover ‘trademark’ and allows Cloverbud members to feel a part of the overall 4-H program. This ‘prep’ program gives children an opportunity to gather with their peers where they work together on educational topic areas as well as have fun in a non-competitive environment. 4-H Cloverbud members acquire the ability to work together, play together, and solve problems as a group—a meaningful step towards developing a positive and long-lasting 4-H experience.

National Cloverbud programs have Somerset County 4-H to thank!



RACHEL LYONS

Associate Director
Chair, 4-H Youth Development

The New Jersey 4-H program brings fact-based, university knowledge and research to our state’s youngest citizens. 4-H clubs, camps, and afterschool programs provide young people the opportunity to learn by doing. New Jersey youth complete hands-on projects in areas like health, science, agriculture, and civic engagement in a positive environment where they receive guidance from adult mentors and are encouraged to take on proactive leadership roles. 4-H helps youth develop skills to lead for a lifetime.

A total of 443 youth from New Jersey have participated in the “give-back and teach-back” program in urban areas.

Ambassadors report interacting with scientists increased their understanding of scientific knowledge and helped them visualize a STEM career.



4-H STEM Ambassadors teach a lesson on climate change and fish migration patterns to elementary school students.

A Garden That Converges Community and Research



The Cook Organic Garden and Urban Farm Incubator comprises plots managed by the Office of Agriculture and Urban Programs. While the community garden traces its origins back to the late 1970s on the G. H. Cook Campus, more recently the space has expanded to support more student and faculty research, as well as collaborations with local community groups. The installation of a deer fence has made the area more productive for more than 100 community gardeners, and the individuals and community groups exploring interesting research questions or testing new products for market. The garden and farm space produces numerous specialty crops grown by Asian and Latina/o gardeners, two cut flower projects (one research-oriented, the other marketing), ongoing native pollinator research led by the Winfree Lab, and a collaboration with Elijah's grow fresh produce for its soup kitchen and culinary training program.



Student interns Jonathan Dmitruck SEBS'18 and Taelto Lee SEBS'19 harvest heirloom tomatoes at the Student Organic Farm.



Rutgers Gardens intern Michael Virgone leads a group of 4-H kids through Rutgers Gardens for a taste and touch tour.



Rutgers Master Gardeners Gerri Harrell (left) and Candice Bolte examine lettuce varieties in a demonstration plot in the Morris County Park Commission's Community Garden.

Something for Everyone

For more than 40 years, the Rutgers Home Gardeners School, organized by the Office of Continuing Professional Education (OCPE) has supported the land-grant mission of community outreach through expert instruction in the most innovative gardening and landscaping subjects available. Each March, over 700 garden enthusiasts visit the George H. Cook Campus to expand their horticultural skills and environmental stewardship. Attendees hail from all 21 New Jersey counties—rural, suburban, and urban alike.

Designed to provide “something for everyone,” the Home Gardeners School offers individual workshop sessions covering a wide array of horticulture topics, allowing New Jersey residents to select the workshops that are most relevant to their gardening interests, physical location, and soil conditions.

Experts from commercial horticulture, landscape, and turf industries participate along with Rutgers Cooperative Extension and School of Environmental and Biological Sciences faculty and staff, providing attendees with the opportunity to learn from the best in the business.

NJAES experts teach about landscape design, annuals, perennials, vegetables, bulbs, bees, butterflies, pruning, tree care, turf (lawn) establishment, plant diseases, insects, best management practices (common problems and solutions), and a whole host of other practical topics designed to prepare garden enthusiasts for the spring and beyond. Specialized topics such as container gardening, succulents, vertical gardening, and floral design attract many of our state’s urban residents with limited access to land or traditional agricultural settings. In response to increased demands to support New Jersey agriculture, OCPE is expanding programs such as the Bee-ginners Beekeeping and Hive Management courses.

Advanced gardeners are encouraged to explore additional opportunities with Rutgers Master Gardener and Environmental Stewards programs, and “budding” New Jersey gardeners are invited to explore county 4-H Youth Development programs.

Home Gardeners School
presented over **180 workshops** to more than
3,800 attendees and volunteers
from across all 21 NJ counties in the last 5 years.



KENNETH M. KARAMICHAEL

Associate Director
Director, Office of Continuing
Professional Education

NJAES and the Office of Continuing Professional Education (OCPE) are committed to improving the quality of life of the residents of New Jersey and beyond through research, education, and public service. Bolstered by the commitment and teamwork of industry leaders, NJAES faculty and OCPE staff are dedicated to helping local communities achieve a sustainable balance among the goals of human development, economic prosperity, and environmental quality.



20,000 bee colonies
in New Jersey.

\$7 million
earned directly by the New Jersey
honey bee industry.

Pollination contributes to the
annual production of nearly
\$200 million
worth of fruits and vegetables.

Source: nj.gov/agriculture/divisions/pi/prog/beeinspection.html

ADVANCEMENT



The Foundation's and Cooperative Extension's partnership includes improving physical activity.

Through its partnership with the Salem Health and Wellness Foundation, the Family and Community Health Sciences Department works collaboratively with stakeholders to identify health needs, determine educational priorities and implement culturally appropriate community delivery methods to Salem County residents. Some achievements of the partnership include programs and policies that improve nutrition and physical activity among children, educators, and caregivers.

Rutgers Cooperative Extension appreciates the support of the Salem Health and Wellness Foundation and looks forward to continuing the partnership to address the health and wellness needs of Salem County.



Continuing to improve nutrition literacy helps institute healthy changes.



Brenda Goins,
Executive Director,
Salem Health and Wellness Foundation

Questions and Answers with Brenda Goins

Why does the Salem Health and Wellness Foundation support and donate to Rutgers Family and Community Health Sciences?

The Salem Health and Wellness Foundation reached out to Rutgers Family and Community Health Sciences for two reasons. We wanted a partner with a health education background to support our “Healthy Kids, Bright Futures” initiative and we understood the need for a health educator in our county. This collaboration has proven to be an asset for the foundation and Salem County, at large. The expertise we have tapped into at Rutgers will continue to benefit the residents of our small, rural county for years to come. It is partnerships such as these that will make the needed changes in all of our communities.

What does the foundation want to accomplish in the region by partnering with Rutgers Cooperative Extension?

The foundation hopes that through this partnership, residents will understand the importance of healthy choices and begin to make appropriate adjustments in all aspects of their lives. We know education is the gateway to better futures so we all must be committed to helping others see this as well. We know that reaching everyone from all walks of life and at every age level is a huge task but one that we must not shy away from. I love the old saying, “many hands make light work.” It will take all of us working together to support others as they strive for healthier lives.

How can other organizations and individuals help?

The foundation would encourage others to partner with Rutgers as they endeavor to institute healthy change. We hope that our partnership will encourage other foundations to take a page out of our playbook and invest in a partnership with an organization that has so much to offer. Individuals are able to do this as well, making even the smallest investment more impactful.



MELISSA MCKILLIP

Senior Associate Director
Director, Philanthropy and
Strategic Partnerships

NJAES research and extension are primarily funded through appropriations and sponsored research. Private giving provides an opportunity for individuals and organizations to also make an impact on the diverse range of research, extension, and education programs that serve the people of New Jersey. Philanthropic support from friends, alumni, and industry partners are the seeds for innovation and excellence that lead directly to meaningful solutions adapted to our urban, suburban, and rural communities.



Salem Health & Wellness
Foundation



Board of Managers

The New Jersey Agricultural Experiment Station Board of Managers, appointed by the Rutgers Board of Governors, is an advisory group to the executive dean of agriculture and natural resources and executive director of NJAES. The board consists of a representative from each county, nominated by the County Board of Agriculture or Board of Chosen Freeholders, and a six-member statewide advisory committee. The president of Rutgers, the executive director of NJAES, and the state secretary of agriculture serve as *ex officio* members.

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