RUTGERS
THE STATE UNIVERSITY OF NEW JERSEY

A REPORT FROM THE
EXECUTIVE DEAN
OF AGRICULTURE AND NATURAL RESOURCES

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Best Wishes to NJ Secretary of Agriculture Douglas Fisher

NJAES leadership, faculty, and staff congratulate New Jersey Secretary of Agriculture Douglas Fisher on his upcoming and well-earned retirement. We thank him for his support of NJAES and his leadership in our state's agriculture industry throughout his many years of distinguished public service. Our best wishes for a healthy and happy retirement!

Secretary of Ag Doug Fisher (center) pictured with NJAES senior directors Peggy Brennan-Tonetta and Brian Schilling at Fisher's retirement dinner on June 21.

NJAES Upgrades Precision Agriculture Equipment at its Research Farms

With guidance from the NJAES **Board of Managers**, the experiment station is committed to building a robust, impactful research and extension program centered on the nexus between agricultural technology and farm viability. Led by **Jeff Everett**, Associate Director for Agricultural Retention, Development and Conservation, NJAES made investments this fiscal year in its research farm infrastructure with the purchase of "smart" precision agriculture equipment for **Snyder Farm**, **P.E. Marucci Center for Blueberry and Cranberry Research**, and **Rutgers Agricultural Research and Extension Center**. Several of the tractors and planters targeted for replacement have been in service for more than 30 years and lack the latest technology. Smart and precision farm technologies can substantially increase the quality of field research and demonstration, and open new opportunities. These technologies will support production systems that allow for 100 times greater planting precision than standard GPS, which means sub-inch planting accuracy. Additionally, these technologies can significantly reduce the amount of labor, fuel, and fertilizer by, for example, utilizing satellites for geopositioning *(and real-time error corrections)* to eliminate planting and spraying overlaps. Further, various sensors detect soil moisture content to optimize planting windows and monitors seed flow and downforce to obtain optimal seed to soil contact and uniform crop emergence. NJAES has also purchased more modern conservation tillage equipment that can demonstrate increases to production efficiency and advance farm viability, climate-smart farming, and resource stewardship goals.

PlantTape's high-speed transplanter intrigues NJ growers at a Vineland field demonstration in April. Photo: Rick VanVranken.

Rutgers-led Project Tests Oyster Reef Structure Designed to Promote Coastal Resilience

Rutgers has a long history of expertise in oyster development, from Julius Nelson in 1888 to today's cutting-edge research on disease, genetics, and population dynamics by Rutgers scientists **Dave Bushek, Ximing Guo,** and **Daphne Munroe** at the **Haskin Shellfish Research Laboratory**. That extensive research portfolio has been combined with expertise in materials sciences and civil engineering at

Rutgers School of Engineering on the DARPA-funded Reefense project, which includes developing an oyster-based shoreline ecosystem to help protect coastlines from storm damage, flooding, and erosion. Overall project lead, Bushek is working alongside an international team of scientists and partners at the University of Western Australia (UWA) to conduct testing of a modular oyster reef structure. A large wave tank at UWA was used to test and demonstrate that the modules the team is designing to support an oyster reef breakwater can provide more than 70% wave attenuation at the eventual installation site near Panama City, FL. Complimentary testing of the oyster reef structure is being conducted at **Rutgers Aquaculture Innovation Center** in Cape May to examine oyster settlement and attachment to 1/10th scale models in an annular flume. Additional work, led by Guo, is applying genomic selection to improve disease resistance and growth rates in stocks of oysters native to the project site based on methods developed to improve oysters in Delaware Bay and the Northeast.

Gardening Education Series Strengthens RCE's Home Horticulture Programming

Rutgers Gardening Education Series, a hybrid program delivered to New Jersey residents ended its third annual offering on May 25. Developed and facilitated by Rutgers Cooperative Extension (RCE), the 16-week home horticulture educational program drew participants from nine New Jersey counties. Since its inception in 2021, the series has trained more than 350 residents drawn from 16 counties in New Jersey and one adjoining county in Pennsylvania. It has successfully extended RCE programming to new audiences, as reflected in the fact that a pre-course survey revealed that 77% of participants had not previously participated in an Extension educational program.

Of Interest

The following new bulletin and fact sheet are available on NJAES Publications:

E002: 2023/2024 New Jersey Commercial Tree Fruit Production Guide
Muehlbauer, M.; van Vuuren, M.; Besancon, T.; Hamilton, G.; Hastings, P.; Lalancette, M; Heckman, J.; Gohil, H.; Ward, D.; Nielsen, A.; Schmitt, D.; Polk, D; and **Cowgill, W.**

Michelle Infante-Casella, agricultural agent and department head, RCE of Gloucester County, has been appointed to a national Network Expanding Taskforce (NET) to assist the IR-4 Project in expanding its network of research and extension personnel. The taskforce will be documenting the pest management needs of specialty crop community and will also help expand IR-4's network to engage additional representation from the 1890 and 1994 land-grant universities.

Recent Honors

Karl Matthews, chair and professor in the Department of Food Science, was awarded a Fulbright U.S. Scholar Program award in Food Science-Food Microbial Safety by the U.S. Department of State and the Fulbright Foreign Scholarship Board.

Karyn Malinowski, founding director of the Equine Science Center at Rutgers, received the 2023 Distinguished Service Award from the Equine Science Society (ESS) for outstanding contributions in the field of equine science and her significant accomplishments "in teaching, research and extension or service as it relates to the advancement of the equine sciences and the horse industry."

Kenneth McKeever, professor in the Department of Animal Sciences and associate director of Research at the Equine Science Center at Rutgers, was elevated to the rank of Fellow of the ESS in recognition of "distinguished service to the horse industry and to the Equine Science Society."