

A REPORT FROM THE
EXECUTIVE DEAN
OF AGRICULTURE AND NATURAL RESOURCES

Report to the New Jersey State Board of Agriculture
March 2017



Claude Wallace conducting measurements on an LED lamp.

Crop production in controlled environments requires supplemental lighting during the darker months of the year. Recent advances in light emitting diode (LED) technology resulted in several advances, including: producing almost any desired light spectrum by combining LEDs that produce different colors of light; adjusting the light spectrum for specific plant needs during different growth stages; and generating electricity savings. **A.J. Both**, extension specialist in bioresource engineering, Department of Environmental Sciences, Rutgers lab technician **Claude Wallace**, along with colleagues from other universities, recently developed a new product label that includes key information about lamps designed for horticultural applications (“Proposed Product Label for Electric Lamps Used in Horticulture and Plant Biology,” 2017; submitted for publication to *HortTechnology*). The new label is intended for inclusion on product packaging so that greenhouse growers have easy access to key information needed to make informed purchasing decisions. The label includes information about several key operating metrics (electric power requirements and consumption), light output across important wavebands, Photosynthetically Active Radiation (PAR) efficacy and heat generation, spectral output, and the PAR distribution at a specific mounting height. The label, if adopted by lighting manufacturers that develop lamps used to grow crops, will be a useful tool for growers interested in supplemental lighting for crop production.



AFV on Delaware Bay beach.

Near-shore intertidal environments present ideal conditions for cultivating shellfish. However, the dynamic topographies of alternating sand bars and sloughs, tide-dependent work windows, and environmentally sensitive habitats also present challenges to developing environmentally sound and efficient farm operations. Many oyster farmers have two hours on either side of a low tide to carry out daily husbandry and harvest tasks. This limited period heightens the need for equipment and practices that maximize efficiency while minimizing environmental impacts. A critical problem is the lack of a low-impact versatile vehicle that allows oyster growers to efficiently transport oysters and gear to and from, and within the farm, and provide a platform for production activities, such as harvesting and sorting stocks. A project to design, build, and evaluate an Amphibious Farm Vehicle (AFV) customized for working an intertidal oyster farm was funded by NE SARE. A manually operated AFV was developed and tested on a small-scale oyster farm in lower Delaware Bay, NJ. The vehicle became a real “work-horse” on the farm, greatly enhancing the execution of farm practices. The vehicle enabled efficiency of farm tasks and reduced the operational costs of the farm. Aquaculture extension program coordinator **Lisa Calvo** and assistant professor **Daphne Munroe**, both from Haskin Shellfish Research Laboratory, participated in the project.

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The electronic vessel trip reporting program (eVTR) is a joint venture with the Garden State Seafood Association, commercial surfclam/ocean quahog fishermen and docks, the North Atlantic Clam Association, Rutgers Cooperative Fisheries Center, and the National Marine Fisheries Service (NMFS) Cooperative Fisheries Program. The goal of this project is to facilitate and show the effectiveness of electronic vessel trip reports (eVTR) using software called eCLAMS, developed by NMFS, to provide commercial fishermen a method to electronically report their catches of surfclams and ocean quahogs for each trip. This will greatly improve the data utilized by fishery managers. A vessel can email the eVTRs to NMFS upon returning to the dock or even send them while out on the water. The receipt of data will be faster, and will help to eliminate input errors since, unlike the paper vessel trip report forms that are mailed to NMFS, these will not have to be entered manually more than once. **Eleanor Bochenek**, director of the Fisheries Cooperative Center at Haskin Shellfish Research Laboratory, and laboratory assistant **Sean Martin** worked with the NMFS Cooperative Fisheries Program to install the software on surfclam and ocean quahog vessels that fish from New Jersey ports. They also assisted with training in the use of the software and trouble shoot issues as they arise at the dock and on the fishing vessel.

Now in its 33rd year, Grape Expectations, the wine industry symposium, was conducted by Rutgers Cooperative Extension on March 4th at the Forsgate Country Club in Jamesburg, NJ. The meeting was attended by over 90 winery professionals. Topics included disease and insect control, avoiding wine faults, and variety selections for avoiding extreme winter temperatures. The meeting was chaired by **Gary Pavlis**, Atlantic County agricultural agent, **Hemant Gohil**, Gloucester County agricultural agent, and **Dan Ward**, extension specialist in pomology, Department of Plant Biology. The meeting was co-sponsored by the Garden State Winegrowers Association.

The biennial National Extension Tourism conference, which convenes Extension and other professionals working in areas related to travel and tourism, will be hosted in Princeton in August 2017. Sussex County agricultural agent **Steve Komar** is chairing the organizing committee, with support from associate extension specialist in agricultural policy **Brian Schilling**, Department of Agricultural, Food, and Resource Economics and Department of Agriculture and Natural Resources faculty: **Bill Bamka**, **Michelle Infante-Casella**, **Dan Kluchinski**, **Pat Rector**, **Meredith Melendez**, **Rick Van Vranken** and from Office of Continuing Professional Education, **Dalynn Knigge**, senior program coordinator, and **Bianca Kovalenko**, administrative assistant. Agritourism in New Jersey will be featured at the conference.

Rafael Valentin, graduate assistant, Department of Ecology, Evolution, and Natural Resources, is the principal investigator of an award totaling \$94,976. The project, titled *Developing a New High-Resolution Surveillance Protocol Using Molecular Methods for Detection of Exotic Agricultural Insect Pests That Can Pose a Threat to Crops*, is being supported by the USDA.

Of Interest:

The following fact sheet is now available on NJAES Publications:

FS1271 A Guide to More Productive and Nutrient Dense Horse Pastures. **Fojtik, A.**, and **Williams, C.**
<http://njaes.rutgers.edu/pubs/fs1271>

