

EXECUTIVE DEAN
OF AGRICULTURE AND NATURAL RESOURCES

Report to the New Jersey State Board of Agriculture
June 2011

Supporting the New Jersey Wine Grape Industry

With approximately 1,043 acres of grapes under cultivation, about 192 New Jersey farms supply 43 state wine-making operations. These produce more than 40 different quality wines—from dry



and semi-dry to sparkling, fruit, and dessert wines. Last year, to support this growing industry, the Rutgers New Jersey Agricultural Experiment Station (NJAES) and New Jersey growers sponsored a widely successful statewide symposium, "Bordeaux—An Old World Terroir with Lessons for New Jersey," which attracted leading authorities from Bordeaux, France, and the U.S.

NJAES has also undertaken a number of viticultural initiatives in collaboration with growers, including a USDA multi-state evaluation of wine grape cultivars and clones at the **Rutgers Agricultural Research and Extension Center (RAREC)** and the **Clifford E. and Melda C. Snyder Research and Extension Farm**.

NJAES has also conducted a pilot evaluation of cold-tolerant Italian vinifera clones that were collected by Rutgers and growers. Several joint demonstration projects have included the investigation of alternative herbicide and mulch systems for vineyard floor management and the testing of the interaction of rootstock and cultivar combinations for their adaptability to New Jersey. To examine fruit quality and reduce pesticide use, NJAES tested bagged grape clusters for pest exclusion, tested Clopyralid as a plant growth regulator to reduce excessive vegetative vigor, and conducted pilot Integrated Pest Management (IPM) surveys of key grape disease pests.

Key GIS Mapping Tool Highlights Wine Growing Potential

The Rutgers University New Jersey Wine Grape Resource Center has emerged as a key resource for wine grape producers...or simply those who'd like to know more about New Jersey wineries. An highly interactive geographic information system (GIS) tool featuring vital grape suitability maps of the climate and soils relevant to viticulture in New Jersey, the website was created by **Daniel Ward** (extension specialist in pomology) and Marilyn Hughes, a GIS consultant to Rutgers NJAES. Funding for the site came from a U.S. Department of Agriculture Specialty Crop Block



Grant. The website is a fruitful collaboration among the [Outer Coastal Plain Vineyard Association](#), the [Garden State Wine Growers Association](#) and [Rowan University](#), which provided the technical expertise. The site is hosted by the Rutgers' [Grant F. Walton Center for Remote Sensing and Spatial Analysis](#).

Ward has completed some fascinating research modeling New Jersey land suitability for growing wine grapes. He has studied the designated American viticulture areas in New Jersey – Warren Hills, encompassing



189,225 total acres; Central Delaware Valley, 95,162 total acres; and Outer Coastal Plain consisting of 2,109,073 total acres – and each county, in an effort to determine the number of frost-free days, growing degree-days, soil drainage, slope, and aspect. This critical research sheds light on the enormous wine grape growing potential in the state.

NJAES Expertise

The cultivation of wine grapes generally require fewer inputs of nitrogen fertilizer and irrigation and result in less soil compaction and erosion compared with annual crops. In spite of these potential benefits, however, growers still need to consider multiple factors before venturing into the market. For example, what is the potential number of acres of wine grapes in New Jersey? How much of New Jersey land is suitable for growing wine grapes? Where are the most suitable parcels?

Both new and experienced growers have available to them local county extension offices to access information; however, NJAES offers an expert team of agricultural resource management agents and specialists with extensive knowledge in viticulture that includes **Jerome Frecon** (Gloucester County), **Peter Nitzsche** (Morris County), **Win Cowgill** (Hunterdon County), **Jenny Carleo** (Cape May County), **William Sciarappa** (Monmouth County), **Daniel Ward** (specialist in pomology), **Jack Rabin** (associate director of farm programs, NJAES), and **Gary Pavlis** (Atlantic County).

Award Winning New Jersey Wines

An annual New Jersey Wine Competition is conducted by Rutgers Cooperative Extension, under the supervision of Pavlis. According to Pavlis, the wine competition began in 1986 by the existing wineries to help promote the then fledgling industry. From its inception, Rutgers NJAES has always had a role as chair of the competition, acting as an unbiased expert in the annual competition.



L-R: Family winemakers including son **Rich** (Cook College, Class of '09), and parents Pennie and Bill Heritage of Heritage Vineyards, Mullica Hill, NJ, display their awards after being named Winery of the Year in the 2011 New Jersey Wine Competition

wines, visit <http://www.newjerseywines.com/awards.html>. To learn more about Rutgers NJAES' extensive efforts to support the expanding New Jersey wine industry, visit the website at <http://njsustainingfarms.rutgers.edu/winegrapes.html>.

On May 14, Heritage Vineyards was crowned Winery of the Year for 2011 as one of the 24 competing members of the Garden State Wine Growers Association to enter this year's competition. The "Winery of the Year" award, approximately five years old, was to "award a winery for the quality across their entire product line," said Pavlis. For more on New Jersey's award winning

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Spotlight

Grapevines and Fine Wines Discovery Tour

The increasingly popular Discovery Tours, coordinated by the **Office of Community Engagement** at the School of Environmental and Biological Sciences, attracted an enthusiastic group to its Grapevines and Fine Wines tour on May 25. Amateur vintners, hobby winemakers, and others who were simply interested in the New Jersey wine industry visited the **Rutgers Agricultural**



Dan Ward explains the art of pruning grapevines

Research and Extension Center (RAREC) to learn from the experts how to grow and prune grapevines for maximum production and flavor, and how the New Jersey wine industry is growing and prospering with the help of scientists from the School of Environmental and Biological Sciences and the New Jersey Agricultural Experiment Station (NJAES).

Dan Ward (extension specialist in pomology) and **Jack Rabin** (associate director of farm programs, NJAES) explained the importance of proper pruning to grow strong vines and produce great wine through a technique called vertical shoot positioning. Guests had the opportunity to practice their newly acquired skills, and the Chambourcin vines were expertly pruned in no time.

After the introduction to the art of vertical shoot positioning, tour goers boarded the wagon for a tour of the farm property, and were welcomed back to the facility by Jim Quarella from Bellview Winery, who provided an enlightening look into the New Jersey wine industry, followed by a tasting of select varieties from his vineyard.



Guests practicing their pruning skills in the Chambourcin Vineyard



Guests boarding the wagon for a tour of RAREC

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Spotlight

New Fisheries Study Aims to Spur More Robust Fisheries Management

A recent fisheries study examining the status of fisheries across a wide range of species has determined that dramatic declines in many small species were just a likely to occur as declines



in large species such as tuna and sharks. Co-authored by Rutgers professor **Olaf Jensen** (marine and coastal sciences), who was part of the team that included fellow U.S. scientists from Stanford University as well as Canadian colleagues from Dalhousie University, the study was published in May in the *Proceedings of the National Academy of Sciences*. The worldwide assessment shows that small species, which power the marine food chain, need protecting, too. According to the study, declines in small fishes strike at the heart of the marine food chain

by interrupting the flow of energy from small to large species. Their loss can trigger further declines among marine birds, mammals and larger fishes. A report on the study's findings suggest that there are no shortcuts for identifying fishes likely to decline and that marine conservation efforts should focus on all parts of the food web, from top to bottom. The authors found that overfishing was the only good predictor of fisheries collapse, and they recommend a rapid halt to overfishing to reduce the risk of fisheries failure. Jensen and fellow authors of the study advocate robust fisheries management. "One of its goals is to adjust the intensity of fisheries to match the productivity of the species being caught. Unfortunately, we still seem to be making mistakes, and about one in every five species we target, whether large or small, has collapsed at some point," said Jensen.

Beekeeping Courses Keep Buzzing



Demonstration of a healthy frame of capped brood at Morris County 4H Fair

The interest among New Jersey residents in starting their own beehives has led to sharp increases in enrollment in bee keeping courses offered by the **Rutgers NJAES Office of Continuing Professional Education (OCPE)** over the last several years. More than 1,000 residents have enrolled in OCPE's basic beekeeping short course, leading to larger classes and the addition of more sections to accommodate the growing demand.

According to **Chris Anderson** (program assistant and on-site coordinator for the course), the two and a half-day class, offered three times a year, consistently fills up and usually has a waiting list. The next "Beginner Beekeeping" class is scheduled for October 6–8, in Bordentown, NJ. The more advanced, two-day class is called "Beyond the Basics" that covers feeding methods, how to remove honey from hives, pest management for honey bees, and other topics.

For more on the OCPE short course, visit their website at <http://www.cpe.rutgers.edu/stories/Beekeeping.html>.

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Faculty and Staff Activities and Accomplishments

Water Resources Program

The Rutgers Water Resources Program has conducted dozens of community service and outreach programs across the state over the last two months. These programs ranged from stormwater management educational sessions, to “Build a Rain Barrel” demonstration



“Build a Rain Barrel” demonstration workshop in Sussex County at Hillside Park, Andover, NJ, on May 5

workshops, to installing demonstration rain gardens in several communities and agencies. Led by **Chris Obropta**, the team of water resources personnel included **Amy Boyajian**, **Jeremiah Bergstrom**, **Lisa Galloway Evrard**, **Caitrin Higgins**, **Sara Mellor**, **Ben Pearson**, and **Jillian Thompson**. A few of the water program activities were conducted in conjunction with Rutgers Cooperative Extension agents, including **Madeline Flahive DiNardo** (agricultural resource management agent, Union County) and **Sal Mangiafico** (agricultural resource management agent, Salem County) and student interns **Dan Yu** (undergraduate student, Bioenvironmental Engineering) and **Rosana Da Silva** (undergraduate student, Environmental Sciences).

Christopher Obropta (Water Resources Program; Environmental Sciences) received a two-year award totaling \$150,000 from the Environmental Protection Agency FY2010 Pollution Prevention Grant Program, EPA-HQ-OPPT-2010-03 for “Water Champions – A program to promote water conservation in our schools.”

Ning Zhang PI (Plant Biology and Pathology) with **Bruce Clarke** (Plant Biology and Pathology) F. Wong, P. Harmon and S. B. Martin as co-PIs were awarded a three-year, \$60,000 grant from the U.S. Golf Association for collaborative research titled “Promotion of turf health through early pathogen detection-development of a Turf PathoCHIP.” Zhang and colleagues will develop a fast and sensitive molecular diagnostic method for early detection of important turfgrass pathogens.

Outreach Efforts: Public/Community Service

The 2011 Central Jersey Turf and Ornamental Symposium was presented at the Battleground Country Club in Manalapan, NJ, through the combined effort of several Rutgers Cooperative Extension faculty and staff. **William Hlubik** (agricultural and resource management agent, Middlesex County); **Rich Obal** (agricultural and resource management agent, Monmouth County); **Diane Larson** (home horticulturist, Monmouth County); **Nicholas Polanin** (agricultural and resource management agent, Somerset County; statewide coordinator for the Rutgers NJAES Master Gardener Program); **Rich Mohr** (agricultural and resource management agent, Ocean County), **Meredith Melendez** (agricultural program associate, Mercer County); and

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Barbara Bromley (horticulturist, Mercer County). This annual program is designed to benefit those who work in grounds maintenance including school board members, maintenance supervisors, employees of highways, parks, cemeteries, industrial grounds, lawn and home ground services, garden center operators and nurserymen. 2011 presenters included **Rich Obal**; **George Hamilton** (specialist in pest management); **Sabrina Tirpak** (senior laboratory technician, Rutgers NJAES Plant Diagnostic Lab); **Stephanie Murphy** (director, Rutgers NJAES Soil Testing Laboratory); **Bruce Clarke** (specialist in turfgrass pathology, and director, Rutgers Center for Turfgrass Sciences); **Stephen Hart** (specialist in weed science); **Ann Gould** (specialist in ornamental pathology); and **Brad Park** (Rutgers NJAES sports turf education and research coordinator).

Mark Your Calendars!

County Fairs

It's that time of year again! County Fairs will be held across the state of New Jersey during the months of July and August. For summer fun and excitement at the perennial 4-H event, take part in a County Fair near you! Visit <http://nj4h.rutgers.edu/fairs/>.

New Brunswick Community Farmers Market

WHEN: From June–October, on Thursdays from 11 a.m.-3:00 p.m. & Saturdays from 11 a.m. - 5 p.m.

WHERE: 178 Jones Avenue, New Brunswick, NJ.



MORE INFO: Visit <http://nbcfarmersmarket.org/default.asp>.

The **New Brunswick Community Farmers Market**, launched in July 2009, is operated by the School of Environmental and Biological Sciences and NJAES, thanks to a generous grant from Johnson and Johnson and with the support of the city of New Brunswick. It strives to support the development of a sustainable community by bringing healthy food from local farms to families and households across the city of New Brunswick.

Vegetation for Wetland Delineation

WHEN: July 14, 2011, 8:30 a.m.-5 p.m.

WHAT: A two-day combination classroom and field course on how to draw a wetland line by identifying a variety of upland and wetland plant species.

MORE INFO: Contact Dalynn Knigge, knigge@njaes.rutgers.edu. 732-932-9271, ext. 622.

Golf and Fine Turf Field Day

WHEN: July 26, 2011, 7:30 a.m.-2 p.m.

WHERE: Hort. Farm, No. 2, 101 Ryders Lane, New Brunswick, NJ.

WHAT: Turf research presentations.

MORE INFO: Contact Anne Diglio, diglio@aesop.rutgers.edu, 732-932-9375, ext. 339.

This report is produced by the Office of Communications and is available online at <http://execdeanagriculture.rutgers.edu/boa/>.

For information or to provide comments, please contact Paula Walcott-Quintin at quintin@aesop.rutgers.edu or 732-932-7000, ext. 4204.



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