Spotlight on... The Water Resources Program

Nothing is more essential to life on earth than water. Every living animal and plant requires an adequate supply of high-quality water, and throughout human history there has been a clear, direct relationship between the abundance of clean water, population density, and quality of life.

New Jersey has historically been blessed with adequate surface and groundwater supplies, and this water has facilitated industrial, agricultural, and residential development throughout the state, resulting in the highest average population density in the United States. However, this population density and concomitant development have resulted in the contamination of water supplies, depletion of groundwater aquifers, and disruption of normal hydrologic cycles leading to an increase in both drought and flooding events. While approximately 11 percent of water bodies in the nation are listed as impaired or failing to meet designated uses, over 40 percent of assessed water bodies in New Jersey are impaired for various pollutants. As human-induced climate change results in intensification of the hydrologic cycle and a continued rise in sea level, these problems will worsen unless solutions are developed rapidly.

A Water Resources Program has been created at Rutgers University that integrates research, education, and extension activities to solve real-world problems that our stakeholders in New Jersey are struggling to address. The program has created several watershed restoration and protection planning efforts. In addition, various initiatives, such as Community-Project-Based Learning and Stormwater Management In Your Backyard, engage various New Jersey residents, from school children to senior citizens, to work together to fix the water problems of the state. Rutgers undergraduate and graduate students are incorporated in all aspects of these projects, providing important learning experiences while allowing them an opportunity to give back to their communities.

Faculty and Staff Activities and Accomplishments

Ken McKeever (Animal Sciences) has been invited to serve on the Equine Drug Research Institute Scientific Committee that is responsible for developing an equine code for the U.S. racing industry and developing the methods for use in equine testing laboratories.

The Barnegat Bay Shellfish Restoration Program (BBSRP), jointly run by Rutgers Cooperative Extension of Ocean County and the NJ Department of Environmental Protection’s Bureau of Shellfisheries, won honorable mention in the Healthy Ecosystems Category for the Governor’s Award for Environmental Excellence. Gef Flimlin and Cara Muscio (Ocean County Marine and
Resource Management agents) are the program leaders in this endeavor. Muscio accepted the award at the governor’s mansion, Drumthwacket, in Princeton. This is the second Governor’s Award that the BBSRP won this year. The Clam Trail, coordinated through ReClam The Bay Inc., the volunteer non-profit that supports BBSRP, also won a governor’s award for tourism.

During the week of Nov. 17, Rutgers NJAES **Food Innovation Center** (FIC) conducted extensive R&D and commercialization testing for Schar USA. Schar, based in Italy, is the world’s largest producer of gluten-free products and is establishing its first U.S.-based business at FIC. Schar chose to locate its first manufacturing operation in New Jersey because of the capabilities of its new incubator facility. Production of gluten-free breads and other products is expected in early 2009. Food Innovation Center staff are working concurrently with Schar on a “graduation” program and assisting the company in its search for a production facility, which may be located in South Jersey.

**Rutgers EcoComplex**, the environmental research and extension center of Rutgers, The State University of New Jersey, is the 2008 recipient of the Governor’s Environmental Excellence Award in the innovative technology category. New Jersey Governor Jon Corzine presented the center with the award at a ceremony and press event on Wednesday, Nov. 29 at Drumthwacket, the official residence of the governor.

Photo l. to r.: Paul Falkowski (IMCS and director of Rutgers Energy Institute), Margaret Brennan-Tonetta (NJAES), and David Specca (EcoComplex).

Jerome L. Frecon (Gloucester County Agricultural and Resource Management agent) was appointed on Sept. 30 for a one-year term to the newly formed Gloucester County Tourism Action Committee.

Joseph Heckman (specialist in soil fertility) was elected as the 2009 chair of the American Society of Agronomy – Committee on Organic and Sustainable Agriculture.

Jim Murphy (specialist in turf management) was awarded the 2008 Hall of Fame Award for outstanding achievements, service, and contributions to the turfgrass industry, and Bingru Huang received the 2008 Recognition Award for her research and extension efforts by the New Jersey Turfgrass Association on December 10 at the 33rd Annual New Jersey Green Expo in Atlantic City.

**Grants**

Rutgers NJAES **Food Innovation Center** received an equipment donation from Sweet Ovations, a Philadelphia-based manufacturer of ingredients used in dairy, bakery, beverage, and foodservice products, for use in the center’s new processing facility. The donated equipment includes assorted lab glassware and testing equipment, a Lee overpressure kettle, a heated holding cabinet, a Stephan VCM mixer, and a Microthermics high-temperature test cooker.
The Office of Continuing Professional Education will receive $1,359,700 of a $1,434,304 customized training grant awarded to Cooper University Hospital by the New Jersey Department of Labor and Workforce Development. The grant money will be used to deliver a broad portfolio of training programs to several thousand employees. The balance of the grant ($74,603) will stay at Cooper for on-the-job training activities.

Stacy Bonos (Plant Biology and Pathology) was awarded a $971,000 grant from the USDA/Department of Energy in support of her project entitled, “U.S. native grass breeding consortium to identify regional optimum biomass productivity on marginal land.” In addition to her own research responsibilities on this project, Bonos is the lead principal investigator and will oversee five subcontracts (Ernst Conservation Seeds., USDA/ARS Dairy Forage Research Center, South Dakota State University, USDA/ARS Pasture Systems and Watershed Management, and Ohio Seed Improvement Association). Bonos also received a $79,261 award from the NE Sun Grant for her project “Breeding switchgrass with improved biomass productivity on marginal land for the Northeast United States.”

Bingru Huang, Stacy Bonos, and Faith Belanger (Plant Biology and Pathology) received a $30,000 award from the USDA for their project “Improving selection for heat tolerance in bentgrass.”

The Center for Turfgrass Science received a $50,000 gift from The New Jersey Turfgrass Foundation at the Green Industry EXPO on December 9 to support research, teaching, and outreach activities in turfgrass science.

Sharon Kinsey, Camden County 4-H Agent, on behalf of the Camden County 4-H Youth Development Program received a $500 Farming for the Future grant from the South Jersey Resource Conservation and Development Council.

Outreach Efforts: Public/Community Service

Nicholas Polanin (Somerset County Agricultural and Resource Management agent) facilitated four regional sessions of the NJ Youth Corps’ (NJYC) Urban Forestry Academy during 2008, assisting with training sites in Phillipsburg, Maplewood, Bridgewater, and Egg Harbor. Eighty youth attended training sessions from all 13 NJYC sites, with a focus on workforce development for the arboriculture and horticulture industries. This program was implemented in 2000 as a workforce preparation program targeting youth for employment opportunities within New Jersey’s tree care and landscape industries. Polanin, along with the directors of the NJYC, initiated this vocational training program for older teen/young adult clientele formerly of the Department of Human Services throughout New Jersey. The Urban Forest Academy has won numerous national awards and recognition from USDA/CSREES and the National Association of County Agricultural Agents.

Mark Vodak (Extension forestry specialist) and Brian Oleksak (Sussex County Agricultural Program associate) presented “Are invasive plants a problem on my woodlot?” as part of the 2008 North Jersey Forest Management Educational Series. The presentation included identification characteristics of seven important invasive plants species, a description of the negative impact
of invasive plants on forest ecology, and a discussion of both human and animal contributions to the introduction and continued spread of invasive plants in North America. An IPM approach employing chemical and non-chemical means was discussed for the control of the seven species. The presentation was attended by 52 individuals, primarily woodlot owners, consulting foresters, farmers, and homeowners.

The New Jersey Department of Agriculture and Rutgers NJAES Food Innovation Center (FIC) hosted a town meeting for the United Fresh Produce Association at FIC’s new business incubator facility in Bridgeton. Over 60 farmers and others allied to the agricultural industry in New Jersey attended this event. Tom Stenzel, president of United Fresh, spoke on the different programs area farmers can take advantage of to increase sales, such as the WIC program. Stenzel then addressed changes farmers are likely to see under President-Elect Obama in the areas of child nutrition legislation, immigration reform and food safety laws. The United Fresh Produce Association is the industry’s leading trade association committed to driving the growth and success of produce companies and their partners internationally.

Jerome Frecon and Michelle Infante-Casella (Gloucester County Agricultural and Resource Management agents) served as tour leaders for 16 legislators and other agriculture officials in Gloucester County on Sept. 10. The tour was sponsored by the New Jersey Agriculture Society and New Jersey Department of Agriculture.

Mark Your Calendars!

South Jersey Tomato Bacterial Disease Workshop and Hot Water Seed Treatment
WHEN: February 9, 9:30 a.m.–1 p.m.
WHERE: Rutgers NJAES Cooperative Extension of Gloucester County, Clayton, NJ
WHAT: Tomato growers will have the opportunity to learn about bacterial diseases of tomato and control measures. Pesticide Credits: 2 Core Credits, 4 Private Part 2 credits, 4 Category 10 Credits, and 3 Category 1A Credits.
MORE INFO: Michelle Casella, 856-307-6450, ext. 1

Horses 2009
WHEN: March 29–29, 2009
WHERE: Busch Campus Center
WHAT: Horses 2009 promises to be the most practical, informative event of the year. Designed as an intense learning experience, the conference offers the latest information on responsible horse ownership, equine health and behavior, nutrition, performance issues, equine facility operations, and other concerns.
MORE INFO: http://www.esc.rutgers.edu/Horses2009/index.htm

This report is produced by the Office of Communications. For information or to provide comments, please contact Amanda Kolling at kolling@njaes.rutgers.edu or 732-932-7000, ext. 4205.