Founding Director of New Jersey Institute for Food, Nutrition and Health

On March 1, Peter J. Gillies, former DuPont Fellow, began his tenure as the founding director of the New Jersey Institute for Food, Nutrition and Health, whose new home is the Rutgers George H. Cook Campus. The institute is a signature initiative that will build on the university’s extensive and pioneering work in the fields of agriculture, food science, nutrition science, and human health. According to Robert M. Goodman, executive dean of Agriculture and Natural Resources, “Gillies’ strong ties to scientific and professional networks, combined with his prominence in the field of nutritional genomics, moves Rutgers a major step forward to its goal of bringing the best in research and education to respond to the urgent and growing challenges to nutrition and human health the world over.” Gillies, who has almost 30 years of professional work experience within DuPont’s world-class research and development organization, is a recognized expert in lipid and lipoprotein metabolism with long standing research interests in the fields of toxicology, cardiovascular drug discovery, and molecular nutrition. The University’s initiative in food, nutrition, and health will advance translational nutrition through an integrated network of interdisciplinary collaboration among Rutgers scholars who conduct research in related areas such as pharmacy, psychology, social work, and biomedical engineering, with the aim of focusing the collective effort on specific problems related to food, health, and nutrition.

Inaugural Soil Health Conference

New Jersey’s First Annual Soil Health Conference was held on March 9 at the Enterprise Center at Burlington County College. Over 200 farmers, engineers, landscape architects, soil scientists, planners, regulators, builders, landscape contractors, and concerned individuals gathered together to listen to the range of problems related to soil health and to contribute to solutions that work for everyone.

Soil kept in good “health” can fulfill its potential in producing our food, filtering and cleaning stormwater, absorbing and storing moisture (making it available in dry periods), providing clean drinking water from wells and rivers, and creating wholesome habitat for trout in our streams and shellfish in our estuaries. Healthy soil allows for luxuriant plant growth, which not only produces food and fiber, but acquires and stores carbon dioxide from the atmosphere, thus playing a role in climate stability. Healthy soil can recycle many “wastes” back into nutrients and valuable products. The effects of damaged soils are indirect, but avoiding damages that must be expensively remedied later is a direct benefit!

Among the sponsors of this inaugural conference was the Rutgers New Jersey Agricultural Experiment Station, which had a significant presence in the form of its Executive Director, Robert M. Goodman, who spoke at the opening session. Stephanie Murphy, director of the NJAES Soil
Testing Laboratory, presented a display of laboratory information and services, and Loren Muldowney, soil scientist at the laboratory, presented a “Soil Biology Primer” for the delegates.

Pictured L–R: Moderator & Conference Committee Chairman Don Knezick (Cook College alumnus, member of the State Soil Conservation Committee, and supervisor, Burlington County Soil Conservation District; Louise Davis, president, NJ Association of Conservation Districts; Stephen DiPietro, assistant to the President of Burlington County College; Robert M. Goodman; and State Senator Philip E. Haines (R-8), an alumnus of Rutgers Law School

Rutgers New Jersey Grower Imperative for Soil Health
A conversation with Jack Rabin, associate director of farm programs, NJAES

During 2009, the New Jersey Agricultural Experiment Station (NJAES) renewed its commitment to work with the USDA’s Natural Resources Conservation Service (NRCS) and New Jersey farmers to increase the adoption of soil health and organic matter building practices, in pursuit of commercial agricultural viability as well as environmental sustainability. The primary goal of this new impetus is for growers to benefit from increasing their soil health and organic matter practices by experiencing reduced incidence of costly losses from soil-borne diseases, like Phytophthora blights. Last year, the experiment station partnered with NRCS to conduct three field trials and training sessions for growers, including conducting an important survey, at the Rutgers Agricultural Research and Extension Center (RAREC) in Upper Deerfield.

Soil health practices and the incidence of soil-borne diseases
An important question guiding the multi-day training and survey was: “Is there a link between soil quality health, organic matter, and the incidence of costly, high-consequence plant diseases in New Jersey?” According to Rabin, “At Rutgers, we believe there is and the survey of the commercial Jersey growers was to determine their opinions on the importance of soil health and the incidence of soil-borne diseases.” When asked about the relationship between increasing soil health practices and the incidence of soil-borne diseases, 54% of the Jersey commercial row-crop farmers indicated that their expected annual crop losses from soil-borne diseases would exceed 50%, if they took no control or management actions.
When asked about their current costs of control, 46% reported spending greater than $30,000 each per year on fungicide or fumigant chemicals to control soil-borne plant diseases; 23% spent between $10,000 and $20,000; and 23% spent between $1,000 and $5,000. “Importantly, no farmer who was surveyed reported eliminating chemical control from their toolbox,” Rabin added.

The survey found that 31% of vegetable farmers reported abandoning, on the fields, their most profitable, first-choice crop, at some time, due to repeated losses from diseases caused by soil-borne pathogens. 61% of the respondents reported abandoning a high value crop, ceasing to process crops on a field, or abandoning leases due to repeated losses caused by soil-borne pathogens.

All of the farmers surveyed at the training reported use of fungicides to control soil-borne pathogens, including farmers already growing Certified Organic crop acres. As Rabin sees it, “There is clearly a need for intensified NJAES research, demonstration, and education for alternative, lower cost sustainable paths for Jersey growers. Continued partnerships with USDA, our farmers and others in the agriculture community will yield viable solutions.”

Reliable alternatives to reduce soil-borne pathogens
In a clear demonstration of the priority that growers placed on managing soils to prevent diseases caused by soil-borne pathogens, the survey revealed that 39% of the respondents were unwilling to accept any losses from soil-borne pathogens, and the remaining 61% were unwilling to accept losses greater than ten percent. Growers indicated a willingness to consider alternatives to managing soils, with only 1 grower responding that “too much time and the effort required” prevented him from considering alternative soil health/organic matter practices.

To the statement: “I am not convinced improving soil health/organic matter is reliable for reducing soil-borne disease losses,” 46% felt that using soil health/soil organic matter practices would successfully reduce soil-borne disease incidence; 31% felt “unsure;” and 23% agreed with
the statement. A staggering 69% of the respondents indicated that long rotations out of their preferred cash crops were not currently feasible to their bottom line.

To Rabin, “These responses clearly tell us that what New Jersey growers require from Rutgers NJAES are clear, convincing, and compelling field study results demonstrating that soil health/organic matter building practices pay back long-term benefits and a profitable bottom line.”

He added that “Since every one percent improvement in soil organic matter on farms sequesters many tons of carbon, there is a public environmental benefit realized from these efforts, as well.”

Rich NJ Cranberry History Highlighted at Gardeners School

Good cranberries, it turns out, are like SuperBalls: they bounce! Cranberry growers were turned on to this useful tidbit about the little red fruit in the 1840s by a New Jersey grower named John “Peg Leg” Webb. The oft-repeated story details how Webb and his peg leg had difficulty bringing a barrel of cranberries down some steps. The barrel tipped and the cranberries tumbled. “The bad ones would stay on the steps and the good ones would bounce to the bottom,” said Ned Lipman, director of the Rutgers Office of Continuing Professional Education (OCPE). Peg Leg’s discovery led to the development of bounce sorters that are still used today to separate good cranberries from less desirable ones, said Lipman, who also co-owns Jeffrey’s Branch Cranberry Co. in Toms River. Lipman shared the Garden State’s rich cranberry history during a workshop at the 34th Annual Home Gardeners School on March 20 on the Rutgers Douglass Campus in New Brunswick. The History of New Jersey Cranberries & Harvest was just one of 36 topics offered. The workshops, from establishing your lawn and growing organic berries, to wine appreciation and designing great container gardens, were taught by staff and faculty of Rutgers Cooperative Extension, NJAES, and the School of Environmental and Biological Sciences to more than 700 home gardeners. The event was coordinated and sponsored by OCPE. Visit www.cpe.rutgers.edu/hgs or call OCPE at 732-932-9271.
Organic Sports Fields & Turf Management program
Throughout New Jersey, signs that read “pesticide free zone” are becoming more common. Over 30 New Jersey towns and two counties have these designated areas in response to residents’ concerns about the effect such toxins have on children and the environment. But finding information or training to implement organic methods of maintaining parks and sports fields has been difficult. “We’re getting more and more requests for this kind of information,” said Rutgers extension specialist in turfgrass management, Jim Murphy. “In talking to people about how to do this and what to do, it’s clear there’s a lot of confusion.”

This growing need is why Murphy, along with Brad Park, a sports turf researcher and education coordinator at the Rutgers Center for Turfgrass Science, pushed to create a course on organic turf management. The new Organic Options for Turf and Sports Field Management class, sponsored by the Rutgers NJAES Office of Continuing Professional Education, was held on March 12. Murphy and Park gave an overview of organic methods and brought in Rutgers alumnus and chief of operations for the Central Park Conservancy, Russell Fredericks, to share his firsthand experiences implementing organic practices in Central Park. Fredericks, a 1991 Rutgers graduate, explained how the Conservancy practices IPM and uses a combination of techniques and cultural practices to limit pest damage, maintain the Park’s healthy ecosystem, and keep spots like the Great Lawn, well, great. The new organic class is part of Rutgers’ Athletic Fields Management series and attracted attendees who represented schools, universities, parks, municipalities, property managers, and landscape contractors. The class presented an overview of organic options that would reduce or eliminate the use of pesticides and synthetic fertilizers on fields, parks, and school grounds. For more information about the program, contact Dave Breeding at breeding@njaes.rutgers.edu or 732-932-9271 or click on the NJAES Office of Continuing Professional Education’s link to the program at www.cpe.rutgers.edu/athleticfield.
Rutgers Cooperative Extension continues to collaborate with the New Jersey Environmental Federation, New Jersey Department of Environmental Protection, and others to develop and conduct IPM training sessions that focus on the landscape and turf component for school district IPM programs. **William Hlubik** (agricultural and resource management agent, Middlesex County) presented an IPM training session late last year at Montclair State University, with school principals comprising close to half of the trainees. A School IPM Coordinator Training session was presented by **Richard Weidman** (agricultural program associate, Middlesex County) at the Middlesex Regional Educational Services Commission Academy in Piscataway. Over half of the attendees were school principals; other attendees were head custodians, facility managers, and business administrators. Over 4,600 school principals, facility managers, and head custodians have received IPM training offered through 66 workshops since March 2005.

**Salvatore Mangiafico** (agricultural and resource management agent, Salem & Cumberland counties) met with other members of the Multi-State Research Project “Water management and quality for ornamental crop production and health” in Hilton Head, SC, on February 20–21. This group aims to develop research and extension materials supporting the ornamental production industry while conserving and protecting water resources with a nationwide perspective. At the most recent RCE Cumberland County stakeholder input meeting, Mangiafico presented a program description of the water resources program that included including addressing concerns by local agricultural stakeholders and citizens about water conservation and surface water quality. The stakeholder group included representatives from nursery and vegetable-growing industries.

**Joseph Heckman** (extension specialist in soil fertility) was one of several delegates from the United States who were invited to participate in the first Indo-USA Workshop on Silicon in Agriculture, held on February 25–27. Heckman presented a paper titled “Silicon nutrition benefits to pumpkin, corn, and wheat.” At left, Heckman is pictured at the Indo-USA Workshop on Silicon in Agriculture that was held at the University of Agriculture Sciences, Bangalore, India.

**Joseph Clark** (Plant Biology and Pathology) was selected by the State FFA Organization, formerly the Future Farmers of America, to receive an Honorary State FFA Degree. The award is given to those who “advance agricultural education and the FFA through outstanding personal commitment.” Clark will receive the award at the 81st New Jersey State FFA Convention to be held on the Douglass Campus on May 26.

**Rong Di** (Plant Biology and Pathology) received a New Jersey Soybean Board grant totaling $10,000 for two years, starting April 1, 2010, for “RNAi-mediated resistance of transgenic soybean to soybean cyst nematode.”
Mark Your Calendar!

**Bordeaux Wine Growing Symposium**
**WHEN:** March 27, 2010 9:30 a.m. to 5 p.m.
**WHERE:** Rutgers Agricultural Research and Extension Center, 121 Northville Road
Upper Deerfield, NJ.
**WHAT:** One day symposium sponsored by the New Jersey Outer Coastal Plain Vineyard Association in cooperation with Rutgers New Jersey Agricultural Experiment Station.
**MORE INFO:** Contact Outer Coastal Plain Vineyard Association, 856-455-3100.

**Roadside and Right-of-Way Management**
**WHEN:** March 31, 2010, 9 a.m. to 3:30 p.m.
**WHERE:** Multiple locations.
**WHAT:** One-day class provides pesticide credits and focuses exclusively on the challenges of managing vegetation along highways, byways and rights-of-way.
**MORE INFO:** Contact Dan Serpico, serpico@njaes.rutgers.edu, 732-932-9271.

**Core Pesticide Training Program**
**WHEN:** April 1, 2010, 1 p.m. to 5 p.m.
**WHERE:** Multiple locations.
**WHAT:** Training for new commercial applicators and operators to meet the New Jersey Department of Environmental Protection Pesticide Control Program pesticide regulations.
**MORE INFO:** Contact Claudine Oleskin, coleskin@rci.rutgers.edu, 732-932-9271.
[http://www.cpe.rutgers.edu/courses/current/ae0801ch.html](http://www.cpe.rutgers.edu/courses/current/ae0801ch.html)

**Ag Field Day at Rutgers Day**
**WHEN:** April 24, 2010, 10 a.m. to 4 p.m.
**WHERE:** George H. Cook Campus, New Brunswick
**WHAT:** Ag Field Day is an annual celebration of our community spirit and of the close ties enjoyed by students, faculty, staff, alumni, volunteers, and New Jersey residents. This year, like last year, Ag Field Day will be part of a larger, campus-wide Rutgers Day.
**MORE INFO:** Contact Mike Green, green@aesop.rutgers.edu, 732-932-7000.

This report is produced by the Office of Communications. For information or to provide comments, please contact Paula Walcott-Quintin at quintin@aesop.rutgers.edu or 732-932-7000, ext. 4204.