



# RUTGERS

New Jersey Agricultural  
Experiment Station

*2007 Annual Report*

***Jersey Roots, Global Reach***

# NJAES

## Mission Statement

To enhance the vitality, health, sustainability, and overall quality of life in New Jersey by developing and delivering practical, effective solutions to current and future challenges relating to agriculture; fisheries; food; natural resources; environments; public health; and economic, community, and youth development.

### Leadership

#### Robert M. Goodman

Executive Dean of Agriculture and Natural Resources;  
Executive Director of NJAES; Executive Dean of the  
School of Environmental and Biological Sciences  
732-932-9000, ext. 500  
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*Leads NJAES, Rutgers' largest research unit and home to  
Cooperative Extension and Cooperative Research, as well  
as the School of Environmental and Biological Sciences.*

#### Gail Alexander

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*Responsible for the daily management of the Office of the  
Executive Dean and the creation and oversight of annual  
advocacy efforts.*

#### Arthur R. Brown, Jr.

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*Responsible for legislative affairs associated with the school  
and the NJAES.*

#### Mark G. Robson

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*Leads all NJAES Cooperative Extension and Cooperative  
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#### Karyn Malinowski

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*Oversees all NJAES Cooperative Extension programs.*

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*Oversees all NJAES Cooperative Research programs.*

#### Edward V. Lipman, Jr.

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*Oversees courses that serve the continuing education needs of  
professionals throughout New Jersey.*

#### Jack Rabin

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*Oversees the operation and maintenance of all outlying  
research farms.*

#### Margaret F. Brennan

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*Leads NJAES' economic development initiatives.*

## A Message from the University President

Through its nine off-campus research and extension centers and offices in all 21 counties, the New Jersey Agricultural Experiment Station (NJAES) provides our state's residents with a direct link to Rutgers, The State University of New Jersey.

During the past year, Rutgers has launched a special effort to clarify its mission and value to the public, policymakers, and members of the university community. Among the university's best statewide ambassadors are NJAES faculty and staff and the diverse range of research, outreach, and educational programs they offer to improve and enrich New Jerseyans' lives.

Rutgers remains keenly focused on encouraging and supporting economic development throughout the Garden State, an area in which NJAES is already highly active. You see this in successes such as the Office of Continuing Professional Education's workforce training programs, the Food Innovation Center's business incubation and economic development accelerator program, and the Food Policy Institute's industry and policy analysis reports. In these ways and many more, NJAES is helping our state and its residents to achieve their full potential.

Sincerely yours,



Richard L. McCormick  
President  
Rutgers, The State University of New Jersey



## A Message from the Executive Director of the New Jersey Agricultural Experiment Station



Under the leadership of Director Mark Robson and others, the past year has been one in which the NJAES has introduced a number of improvements in its organization and focus. For instance, we have reorganized our work along program lines that better represent the issues of importance to New Jersey residents—specifically, production agriculture, horticulture, and allied industries; public health; saltwater fisheries and aquaculture; economic and community development; food and nutrition; youth development; and environmental and natural resources.

We have also reinforced our commitment to these areas by pursuing new projects. In the area of public health, we have created a Center for Vector Biology to provide research on insects and the diseases they carry. In support of production agriculture and horticulture, we have stepped up our ornamental and tree fruit breeding research. New research on fish biology, stocks, and migration are helping our state's fisheries and aquaculture industries. All this is in addition to our continued excellence in existing programs, such as equine science, turfgrass research, and 4-H youth development.

Together with New Jersey state government, County Boards of Chosen Freeholders, and the U.S. Department of Agriculture, NJAES is doing its part to make New Jersey a great place to live and work.

Best regards,



Robert M. Goodman  
Executive Director  
New Jersey Agricultural Experiment Station

# New Jersey Agricultural Experiment

## January

Rutgers New Jersey Agricultural Experiment Station (NJAES) and the New Jersey Department of Labor and Workforce Development announce customized training for New Jersey's agricultural sector. The program is a component of the New Jersey Department of Agriculture's "Agricultural Development Initiative." It is delivered via specialized courses for agribusiness owners, managers, and workers at regional locations around the state. The training, delivered by the Rutgers NJAES Office of Continuing Professional Education, includes courses on improving efficiency of equipment, people, and production processes. Business courses will focus on cost-benefit and risk-return decision making.

Visit: [ocpe.rutgers.edu](http://ocpe.rutgers.edu)



A Rutgers NJAES Cooperative Research team assesses biomass energy potential in New Jersey. They develop a unique calculator to quantify biomass available now and by 2020. It is estimated that approximately 65 percent of New Jersey's biomass could ultimately be converted to energy. In another bioenergy project, Stacy A. Bonos breeds switchgrass, a biomass source that is two to three times more efficient at producing ethanol than corn. Her work will ensure that farmers in New Jersey will have high-quality varieties of grasses to supply local demand.

Visit: [njaes.rutgers.edu/bioenergy](http://njaes.rutgers.edu/bioenergy)

## February

Rutgers' Water Resources Program completes three regional stormwater management plans affecting more than 20 municipalities in four counties. Each plan contains measures to reduce flooding, decrease pollution, and promote groundwater recharge. One such plan, which involved working with nine municipalities, two counties, and several nongovernmental organizations, identified and addressed impairments in the Robinson's Branch Watershed, a tributary to the Rahway River. Similar efforts are being completed in the Troy Brook Watershed in Morris County and the Pompeston Creek Watershed in Burlington County.

Visit: [water.rutgers.edu](http://water.rutgers.edu)



Seventy-three Master Gardeners volunteer at the Rutgers display during the 2007 New Jersey Flower and Garden Show, which draws approximately 10,000 people. The show features landscapes depicting themes from books and movies. The Rutgers Gardens display features Mr. McGregor's garden from *The Tale of Peter Rabbit* and was designed and built by students of the School of Environmental and Biological Sciences. Cooperative Extension also hosts several seminars on topics such as turf, orchids, invasive plants, deer in the garden, gardening for children, and heirloom plants.

Visit: [njaes.rutgers.edu/mastergardeners](http://njaes.rutgers.edu/mastergardeners)

## March

The Small Steps to Health and Wealth (SSHW) program is introduced statewide. The program encourages gradual changes that can be applied to both financial planning practices and health behavior. Barbara M. O'Neill, extension specialist, and Karen M. Ensle, Rutgers Cooperative Extension family and community health sciences educator in Union County, co-author a SSHW workbook that encourages readers to work on health and financial behavior changes together to improve both aspects of life. The book is available from the Natural Resource, Agriculture, and Engineering Service ([nraes.org](http://nraes.org)).

Visit: [njaes.rutgers.edu/sshw](http://njaes.rutgers.edu/sshw)



Students of the Rutgers NJAES Office of Continuing Professional Education's Home Gardener's School receive instruction in the most innovative gardening and landscaping subjects available. Each spring and fall, the school offers a wide variety of classes to over 1,000 home gardeners in four different sessions. Lectures are provided by speakers from the Office of Continuing Professional Education's commercial horticulture and landscape design programs and by faculty and staff from Rutgers NJAES and the School of Environmental and Biological Sciences.

Visit: [ocpe.rutgers.edu](http://ocpe.rutgers.edu)

## April

The Rutgers NJAES Food Innovation Center, an economic development program and business incubator, based in Bridgeton, is named "Incubator of the Year" in the services and manufacturing category by the National Business Incubation Association (NBIA). The center offers business and technical expertise to farmers, agricultural cooperatives, small and mid-sized food companies, and retail and food service operations that promote locally sourced food products. The criteria for the NBIA award include services offered, program results, success stories, and financial sustainability. The NBIA estimates that about 5,000 business incubators exist worldwide.

Visit: [foodinnovation.rutgers.edu](http://foodinnovation.rutgers.edu)



"Horses 2007," hosted by Rutgers NJAES Equine Science Center and held on the George H. Cook Campus, creates a learning event for more than 800 members of the equine community from throughout the Mid-Atlantic region. Later in the year, the center releases a report showing that the New Jersey equine industry, valued at more than \$4 billion, generates \$1.1 billion annually for the New Jersey economy. The data from the study raises awareness about the importance of the equine industry to New Jersey.

Visit: [esc.rutgers.edu](http://esc.rutgers.edu)

## May

Cesar Rodriguez-Saona, extension specialist in blueberry and cranberry entomology, and Dean F. Polk, Rutgers Cooperative Extension Integrated Pest Management (IPM) agent, receive a grant from Interregional Research Project-4, funded by the U.S. Environmental Protection Agency and the U.S. Department of Agriculture, to study mating disruption of oriental beetles. This is one of many projects of the NJAES' entomology program, which develops and implements cost-effective, reduced-risk IPM practices for blueberries and cranberries. The extension component of the program delivers pest management information to growers through on-farm demonstration trials, presentations, and extension publications.

Visit: [pemaruccicenter.rutgers.edu](http://pemaruccicenter.rutgers.edu)



One hundred sixty people attend a goat meat seminar presented by Rutgers NJAES and the New Jersey Department of Agriculture to learn how to profitably raise goats for a growing New Jersey market. Robert C. Mickel and Stephen J. Komar, Rutgers Cooperative Extension agricultural and resource management agents in Hunterdon and Sussex Counties, respectively, organize the seminar and continue to collaborate on a research project that looks at ways to market goat meat directly to consumers, restaurants, and other high-end users.

Visit: [njaes.rutgers.edu/extension](http://njaes.rutgers.edu/extension)

## June

The Rutgers Cooperative Extension Department of Family and Community Health Sciences and the New Jersey Foundation for Aging present a conference, "The New Face of 60 in New Jersey." People interested in enhancing communities and developing programs for older persons attend the meeting. Attendees identify preventive health and wellness priorities, discover practical and creative models to address community issues, and explore innovative programs that will help New Jersey residents to age well.

Visit: [njaes.rutgers.edu/fchs](http://njaes.rutgers.edu/fchs)



New Jersey 4-H Teen Council members Jordan L. Race and Eric P. Thiel travel to Moscow, Russia, to teach at a two-week linguistics camp as part of the 4-H Teen Russian/American International Leadership Program (T.R.A.I.L.). They introduce 100 Russian youth, ages seven through 16, to 4-H leadership skills, team building, problem solving, conflict resolution, and principles. The 4-H T.R.A.I.L. program began in 2003 as a youth/adult partnership through Rutgers NJAES Cooperative Extension.

Visit: [nj4h.rutgers.edu](http://nj4h.rutgers.edu)

## July

Rutgers NJAES announces a web portal to serve Spanish-speaking residents. The portal offers links to Spanish-language information on outreach programs, taking care of infants, commercial agriculture, and general health and nutrition, as well as links to other websites that offer Spanish-language material. This portal will grow as the experiment station works to translate more of its programs, publications, and other materials into Spanish.

Visit: [njaes.rutgers.edu/espanol](http://njaes.rutgers.edu/espanol)



Rutgers NJAES Transitional Education and Employment Management Gateway Support Center, a juvenile mentoring and support organization, is presented with a check for \$50,000 from the Nicholson Foundation. The monies will fund grassroots programs in Newark that help juvenile ex-offenders to rejoin society and rebuild their lives. The Juvenile Mentoring and Support Services Initiative provides programs on a wide range of topics, including video production, life skills training, academics, and mentoring.

Visit: [teemgateway.rutgers.edu](http://teemgateway.rutgers.edu)

## August

Rutgers NJAES supports the state's shellfish and aquaculture industries. The Haskin Shellfish Research Laboratory gathers data from oyster seed beds in the Delaware Bay so that policymakers can make science-based recommendations to prevent overfishing. Rutgers Cooperative Extension's Barnegat Bay Shellfish Restoration Program works with volunteers to educate the public about their role in improving water quality by growing shellfish in Barnegat Bay. Gef Flimlin, Rutgers Cooperative Extension marine agent in Ocean County, has worked extensively on the restoration program and also leads aquaculture research at the Rutgers NJAES EcoComplex.

Visit: [ocean.njaes.rutgers.edu/marine](http://ocean.njaes.rutgers.edu/marine)



Rutgers NJAES Cooperative Research-funded scientists are sequencing microbial genomes for applications that will be beneficial to society. Joan W. Bennett studies the genetics of potentially life-threatening mycotoxins; Donald Y. Kobayashi is working with *Lysobacter enzymogenes*, a biocontrol agent that produces antifungal compounds; Dina M. Fonseca is developing nuclear molecular markers to examine the expansion of the Asian tiger mosquito in New Jersey; and Max M. Haggblom and Elisabetta Bini are working on the bacterium *Selenospirillum indicus*, which will lead to processes that remove selenium from polluted soils.

Visit: [njaes.rutgers.edu/research](http://njaes.rutgers.edu/research)

## September

The Food Stamp Nutrition Education Program (FSNEP) launches Calcium: Select to Protect, a campaign to promote higher calcium intakes among children. The campaign features materials that outline the “whys” and “hows” of providing calcium-rich diets in children. The program kick-off included FSNEP-hosted health fairs at ShopRite supermarkets and material distribution in Food Stamp offices throughout the state. FSNEP serves more than 40,000 people statewide and is funded by the U.S. Department of Agriculture’s Food and Nutrition Service.

Visit: [fsnep.rutgers.edu](http://fsnep.rutgers.edu)



The Rutgers NJAES Food Innovation Center is elected as the winner of the USDA-CSREES Partnership Award for Innovative Program Models for combining “resources and disciplines in new ways and for developing an unusual response to a common problem.” Earlier this year, the center’s model for innovation and knowledge transfer, which encourages regional economic development and entrepreneurship, was used as part of the model for the new Rutgers Center for Innovation Studies. The Center for Innovation Studies recently received \$50,000 through the Rutgers Academic Excellence Fund Awards.

Visit: [foodinnovation.rutgers.edu](http://foodinnovation.rutgers.edu)

## October

The Rutgers NJAES Food Policy Institute (FPI) releases a study that shows agritourism generated \$57.5 million for the state’s farmers last year. In addition to revenues for farmers, the study’s authors found that agritourism created an additional \$33.3 million in revenue in non-farm businesses in 2006. That, together with on-farm revenue, brought the revenue impact of agritourism in New Jersey to almost \$91 million last year. This study follows a report released in October 2006 that found agritourism to be critical to ensuring the current and future viability of agriculture in New Jersey.

Visit: [foodpolicyinstitute.rutgers.edu](http://foodpolicyinstitute.rutgers.edu)



The Rutgers NJAES Center for Vector Biology holds a summit to provide a forum for input from more than 100 state, county, and university practitioners, biologists, and health professionals regarding its research and outreach priorities. The long-term goals of the center include reinvigorating old partnerships, collaborating with other universities, and moving into the international arena. Following the summit, Randy R. Gaugler, the center director, gives the inaugural lecture in a distinguished lecture series sponsored by the Office of the Executive Dean of Agriculture and Natural Resources.

Visit: [vectorbio.rutgers.edu](http://vectorbio.rutgers.edu)



## November

The Rutgers Cooperative Extension Departments of Family and Community Health Sciences and 4-H Youth Development launch a comprehensive website for the statewide campaign, Get Moving–Get Healthy New Jersey. The site is designed to help New Jersey residents take action to improve their health. Eating family meals together is one research-based strategy suggested by the program. The program also encourages more physical activity as an effective way to reduce child and adult obesity. The “Walk New Jersey Point-to-Point Challenge” encourages families, youth, and individuals to walk 300 miles over the course of six weeks.

Visit: [getmovinggethealthynj.rutgers.edu](http://getmovinggethealthynj.rutgers.edu)



Kenneth H. McKeever of the Department of Animal Sciences and the Rutgers NJAES Equine Science Center studies the effects of food extracts on equine physiology, showing that some suppress inflammation. These results can be applied to soldiers who rely on ibuprofen during combat to decrease inflammation. The project, funded by the U.S. Department of Defense, is a multidepartmental research collaboration. McKeever is the principal investigator and William C. Franke of the Center for Advanced Food Technology is the managing principal investigator.

Visit: [njaes.rutgers.edu/research](http://njaes.rutgers.edu/research)

## December

A poll of more than 1,000 ethnic households on the East Coast identifies the favorite vegetables of those surveyed. The top choices are then test-grown in New Jersey, Massachusetts, and Florida to see which crops fare best in those climates. Market data are now available, and growing instructions for farmers will be released in spring 2008 to help growers succeed with these new crops. The project was funded by the U.S. Department of Agriculture–Cooperative State Research, Education, and Extension Service under the National Research Initiative, “Agricultural Prosperity for Small and Medium-Sized Farms.”

Visit: [njaes.rutgers.edu/research](http://njaes.rutgers.edu/research)



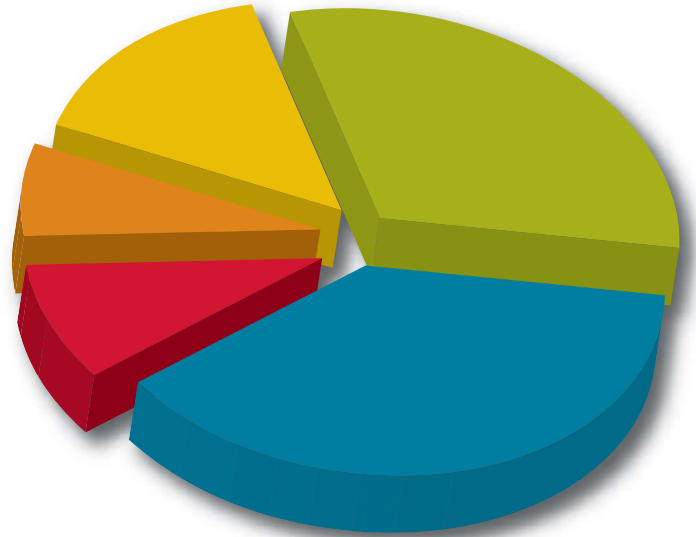
As part of a national initiative, Rutgers NJAES 4-H Youth Development leads New Jersey Operation: Military Kids, a team partnership with the U.S. Army, U.S. Department of Agriculture, and a variety of community organizations. In 2007, more than 600 youth from military families participated in programs designed to encourage and support them during deployment. Among the programs offered to participants are a speaker’s bureau where youth are given the opportunity to speak out about having a loved one deployed and a mobile technology lab that helps military kids to stay connected to their deployed family members.

Visit: [operationmilitarykids.org](http://operationmilitarykids.org)

## Income and Expenditures

### Funding Sources

- 30.2% State Appropriations
- 38.6% Federal Appropriations
- 8.9% County Appropriations
- 7.1% Federal Grants & Contracts
- 15.2% Other



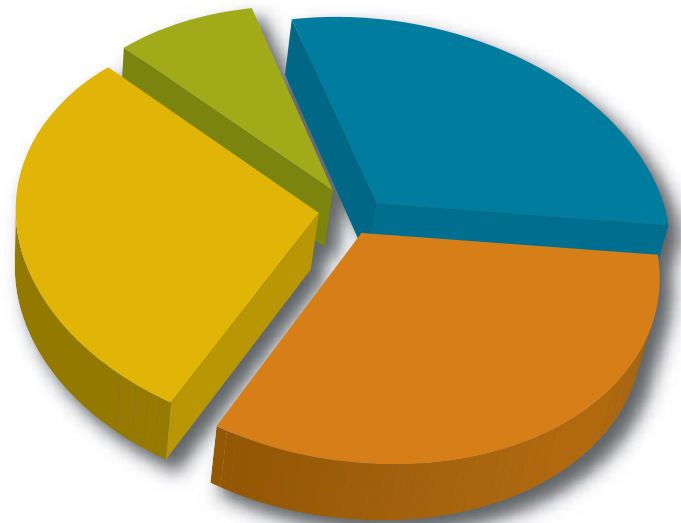
### Expenditure Breakdown

#### Cooperative Research

- 29.8% Unrestricted Funds
- 32.5% Restricted Funds

#### Cooperative Extension

- 29.3% Unrestricted Funds
- 8.4% Restricted Funds



Total Funding: \$85,142,073



## NJAES Board of Managers

The New Jersey Agricultural Experiment Station Board of Managers, appointed by the Rutgers Board of Governors, is an advisory group to the executive dean of agriculture and natural resources and executive director of NJAES. The board consists of a representative from each county; the president of Rutgers, the executive director of NJAES, and the state secretary of agriculture as ex officio members; and a six-member statewide advisory committee.

Atlantic County .....	Robert Fenton
Bergen County .....	Vacant
Burlington County .....	Marilyn Russo
Camden County .....	Vacant
Cape May County .....	Warren C. Stiles
Cumberland County .....	Maurice Sheets
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Gloucester County .....	Douglas Zee, Jr., President
Hudson County .....	Vacant
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Middlesex County .....	George Conover
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Somerset County .....	Chan Leung
Sussex County .....	Carladean Kostelnik
Union County .....	Richard Montag
Warren County .....	Mitchell Jones

## Statewide Advisory Committee

Biotechnology .....	Ramesh Pandey
Community Resources .....	Vacant
Environment .....	Vacant
Food Science .....	Pearl Giordano
Marine Science .....	Stephen Carnahan
Public Policy .....	Vacant

## County Offices

Atlantic County	609-625-0056
Bergen County	201-336-6781
Burlington County	609-265-5050
Camden County	856-566-2900
Cape May County	609-465-5115
Cumberland County	856-451-2800
Essex County	973-228-3179
Gloucester County	856-307-6450
Hudson County	201-915-1392
Hunterdon County	908-788-1339
Mercer County	609-989-6833

## Centers and Institutes

- Center for Controlled-Environment Agriculture  
[aesop.rutgers.edu/~horteng](http://aesop.rutgers.edu/~horteng)
- Center for Deep-Sea Ecology and Biotechnology  
[njaes.rutgers.edu/cdseb](http://njaes.rutgers.edu/cdseb)
- Center for Turfgrass Science • [turf.rutgers.edu](http://turf.rutgers.edu)
- Center for Urban Restoration Ecology • [i-cure.org](http://i-cure.org)
- Center for Vector Biology • [vectorbio.rutgers.edu](http://vectorbio.rutgers.edu)
- Equine Science Center • [esc.rutgers.edu](http://esc.rutgers.edu)
- Food Policy Institute • [foodpolicyinstitute.rutgers.edu](http://foodpolicyinstitute.rutgers.edu)
- IR-4 Project: Center for Minor Crop Pest Management  
[ir4.rutgers.edu](http://ir4.rutgers.edu)
- Rutgers Energy Institute • [rei.rutgers.edu](http://rei.rutgers.edu)
- Wildlife Damage Control Center • [njaes.rutgers.edu/wdcc](http://njaes.rutgers.edu/wdcc)

## Off-Campus Stations

- Clifford E. and Melda C. Snyder Research & Extension Farm  
Rutgers Center for Sustainable Agriculture, Pittstown  
[snyderfarm.rutgers.edu](http://snyderfarm.rutgers.edu)
- Food Innovation Center, Bridgeton  
[foodinnovation.rutgers.edu](http://foodinnovation.rutgers.edu)
- Haskin Shellfish Research Laboratory, Bivalve  
[hsrl.rutgers.edu](http://hsrl.rutgers.edu)
- Lindley G. Cook 4-H Youth Center for Outdoor Education,  
Branchville • [nj4hcamp.rutgers.edu](http://nj4hcamp.rutgers.edu)
- Philip E. Marucci Center for Blueberry & Cranberry Research  
& Extension, Chatsworth • [pemaruccicenter.rutgers.edu](http://pemaruccicenter.rutgers.edu)
- Rutgers Agricultural Research & Extension Center, Upper  
Deerfield • [aesop.rutgers.edu/~rarec](http://aesop.rutgers.edu/~rarec)
- Rutgers EcoComplex - Rutgers Environmental Research &  
Extension Center, Bordentown • [ecocomplex.rutgers.edu](http://ecocomplex.rutgers.edu)
- Rutgers Plant Science Research & Extension Farm, Adelphia  
[njaes.rutgers.edu/plantscience](http://njaes.rutgers.edu/plantscience)
- Rutgers Tree Fruit Research & Extension Center, Cream Ridge  
[creamridge.rutgers.edu](http://creamridge.rutgers.edu)

Middlesex County	732-398-5262
Monmouth County	732-431-7261
Morris County	973-285-8307
Ocean County	732-349-1152
Passaic County	973-305-5742
Salem County	856-769-0090
Somerset County	908-526-6295
Sussex County	973-948-3040
Union County	908-654-9854
Warren County	908-475-6505

*For more information, visit us at [njaes.rutgers.edu](http://njaes.rutgers.edu).*

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