Fall
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Burlington County Outside

Yard **Garden** **Parks** **Wildlife** **Landscape** **Family**

In This Issue

RUTGERS
New Jersey Agricultural Experiment Station

And the Heat Goes On

Rutgers NJAES Cooperative Extension
Reprinted from What's In Season from the Garden State

Farmers always keep their eye on the sky because their livelihood depends on the weather. When faced with weather extremes such as this summer's high heat and excessive dryness, they have to kick into gear methods to protect employees from heat exhaustion and acres of crops from loss.

Rutgers NJAES agricultural meteorologist Keith Arnesen, Ph.D., indicates that for April, May, June and into July, the state's average rainfall for each month has been 1" below normal, which he admits is not a huge amount in the short term. However, he adds, it is the combination of heat and dryness which takes the most toll on crops. Despite the dryness, New Jersey has only recently declared drought conditions for the northeast region of the state due to the large influx of water into our aquifers and reservoirs during March, which according to Arnesen was "off the charts" above normal rainfall.

The weather conditions have both positive and negative impacts on our state's agriculture. Andy Wyenandt, Ph.D., Rutgers NJAES vegetable plant pathologist reports that the long periods of hot, dry weather over 90 F have been unfavorable to the development of many vegetable Diseases. This is a huge relief after last year's cloudy and cool conditions spurred the spread of Late blight on tomato and potato crops throughout the region.

While there is little disease pressure, some insects which are pests to certain vegetable crops, thrive in high temperatures. The Rutgers NJAES vegetable Integrated Pest Management program provides recommendation to farmers to scout their fields for their presence and to spot treat to control these populations before they get out of hand.

The heat can also hinder a plant's ability to produce fruit. Wes Kline, Ph.D., Rutgers NJAES agriculture agent for Cumberland County reports that loss of flower buds and flowers due to high temperatures and drought stress is a serious problem in bell peppers, more so than other types of peppers. Also, tomato pollination depends on both nighttime temperatures between 55 and 75 F and daytime temperatures between 60 and 85 F, with extreme high temperatures causing flowers to drop.

Farmers first line of defense for dealing with weather extremes is irrigation. Modern irrigation methods are more effective at conserving water than older methods that resulted in water losses due to

Why Bottle Your Own Water?

Ann Moore, Recycling Coordinator
Office of Resource Conservation, County of Burlington

Benefits for the environment:

Manufacturing plastic water bottles requires an estimated 47 million gallons of oil each year. In fact, 1.5 million barrels of oil are used annually in the production of plastic bottles. That's enough to fuel 100,000 cars for one year!

In addition, the water intended for bottling is often routed away from its natural source, removing it from small towns and farmers who rely on it for their livelihood.

The global distribution of bottled water creates yet another environmental hazard. The trucks, airplanes and boats on which the water travels consume even more fossil fuels, while simultaneously causing air pollution.

Although bottles made from PET are recyclable, the Container Recycling Institute estimates only 21% of plastic bottles are recycled in the United States. This fills up landfills with bottles that can take up to 1,000 years to biodegrade.

Benefits for your wallet:

Compared to the very affordable price of tap water, your bottled water costs you a bundle – sometimes up to 10,000 times more than your tap water. With prices ranging from $5 to $10 per gallon, bottled water costs more than gasoline! Bottled water is a $100 billion a year industry, even though for a fraction of that price, everybody in the world could enjoy safe and clean drinking water.

Benefits for your health:

Most people believe that bottled water is healthier for you than tap water, but the opposite is often true. Tap water is rigorously tested by local, state, and federal environmental agencies.

What bug is that?

Fall Webworm
Hyphantria cunea (Drury)

Photo by Ohio State Extension

Description: Fall webworms produce a light gray web on various trees in late summer and early fall. Webworms will enclose leaves inside of their nests, unlike the tent caterpillars which make smaller nests. Fall webworms were imported to Europe and Asia from the US and are considered pests there as well. Fall webworm larvae are hairy caterpillars with paired dark spots on each segment of its back. Their color can vary from reddish, to yellow to pale green. The larvae are about 1" long when mature. The adult form is a white moth with a wingspan of about 1.5 inches.

Damage: Fall webworms are unsightly, but rarely cause damage to trees due to their late season leaf feeding.

What to do: Unsightly nests may be removed by pruning them out when they begin to form. Nests are easily crushed and should be disposed of in the trash. It is not recommended to burn them out of the trees. There are more than 80 species of parasites and predators of fall webworm caterpillars in North America. Wasps, birds, predatory stink bugs and parasitic flies and wasps are the largest consumers of fall webworm larvae. For more information visit: http://ento.psu.edu/extension/factsheets/pdf/fallwebwm.pdf

Getting the Garden, and the Gardener, Ready for Winter

Susie Jacobsen, Master Gardener Volunteer
Rutgers NJAES Cooperative Extension of Burlington County

Gardeners love to garden. Things like digging in the soil to plant, watching seedlings come up, seeing the fruits (and vegetables) of our labors come into being are what inspire most of us. The sun, warm weather, gentle rains, and love of the outdoors fill our spirits and bring us joy. Winter brings just the opposite with cold weather, bleak skies, and a brown environment. To get the garden ready for the winter, we must first get ourselves ready to face the inevitable. To prepare for that eventual spring time joy, there are things we should be doing now.

The first step, and this is my favorite, is to contemplate the garden you have now. This should be done on a warm day when you can sit outside and look things over. Evaluate what worked well and what didn't work so well. Are there things that would look better if planted elsewhere? Are there plants that you are tired of? Make a plan for moving, replacing, or discarding plants. Remember that plant diversity can help keep down unwanted pests and plant diseases.

If you find spots where a new shrub or rose or other perennial could go, take yourself shopping. Many of the higher-end nurseries have fantastic sales in the fall with savings beyond 50 percent. Before purchasing check with the staff to be sure that the plant can be safely planted at this time of year. Many plants can be planted or transplanted as long as the ground is not frozen. Treat yourself to something wonderful!

While you are contemplating, determine what needs to be cleaned up and what tools you will need.

If you pull out weeds now, especially before they go to seed, you will be ahead of the game next year. Some weeds have seeds that stick themselves into your clothing. Try to get to these weeds as early as possible before the seeds are formed. However, if your clothing gets attacked by these seeds, usually washing them on the heavy-duty cycle will remove them.

Here is a checklist of tasks to use as a guideline to get your garden ready for winter:

❑ Evaluate your garden and make a plan for changes.

❑ Transplant perennials, trees and shrubs as needed. The best time is when the leaves have started to change color and are beginning to fall to the ground.

❑ Cut off and discard in the trash any diseased foliage from evergreens, shrubs and other plants.

❑ Clear out the vegetable garden. Separate the healthy from diseased plant material. Put the healthy material in the compost and the diseased material in the trash.

❑ Gather and dry any seeds that you want to collect from your flower or vegetable garden.

❑ Plant bulbs. This can be done until the ground is frozen.

❑ Remove spent annuals by cutting them off at ground level. Leaving the roots in place will help improve the soil structure and cut down on weeds.

❑ Cut back perennials or leave them if there are attractive seed heads to provide winter interest.

❑ Remove weeds. If there are seeds present, it is best to gently cut the seed heads off to reduce scattering. Then pull the weed out.

❑ Remove soil from clay pots and wash them out.

❑ Start a compost pile if you do not already have one. Add both green material such as grass clippings and plant parts and brown material such as leaves.

❑ Gather up gardening tools and clean the soil off. Rub them with an oiled cloth an put them away. Make a note of any tools that need to be replaced. Sharpen pruners and other cutting tools.

❑ Spread a mulch of leaves, bark or pine needles around plants to give them winter protection.

❑ Winterize your roses where necessary by mounding soil six to eight inches around the base of hybrid teas and other vulnerable plants. Light colored plants tend to be most vulnerable.

❑ Remember that a garden is a work in progress and not a finished product!

Plants for Our Native Bees

Meredith Melendez, Horticulture Consultant
Rutgers Cooperative Extension of Burlington County

Often overlooked, native bees are an important component of plant pollination. They fill in where honeybee populations have been reduced, and ensure the pollination of our local fruit and vegetable plants,. Native plants are one of the best sources of food for our native bee populations. Small and large gardens alike can offer food, nesting and young rearing sites for these insects. Here are some pointers and plant suggestions for planning a garden attractive to native bees.

Tips for Attracting Native Pollinators

•Use local native plants, they are often more attractive to native bees than non-native plants.

•Select plants with varying plant colors, bloom times, and flower shapes to suite the needs of various pollinators.

•When possible planting beds should include four feet in diameter clumps of one plant species.

Native Plants for Native Pollinators

• Azalea	*Rhododendron*
• Bee balm	*Monarda*
• Blueberry	*Vaccinium*
• Boneset	*Eupatorium*
• Goldenrod	*Solidago*
• Lobelia	*Lobelia*
•Meadowsweet	*Spirea*
•Milkweed	*Asclepias*
•Serviceberry	*Amelanchier*
•Sneezeweed	Helenium
•Sunflower	*Helianthus*
•Turtlehead	*Chelone*
•Wild geranium	*Geranium*
•Wild indigo	*Baptisia*
•Wild mint	*Mentha*
•Willow	*Salix*

Non-native Garden Plants Attractive to Native Pollinators

•Basil	*Ocimum*
•Catmint	*Nepeta*
•Cosmos	*Cosmos*
•Lavender	*Lavendula*
•Russian sage	*Perovskia*
•Squill	*Scilla*

Halictus confusus
Image source: Rachel Winfree, Rutgers

Lasioglossum (Dialictus)
Image source: Karl Volkman bugguide.net

Bombus impatiens
Image source: Rachel Winfree, Rutgers

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Jersey Fresh Information Exchange
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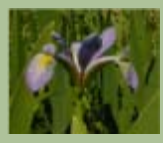
Storm drains carry rain water, along with litter from our streets, directly into the nearest creek or river. Cigarette filters are litter too! Use an ash cup in your car, and a trash can along the street, when you walk.

Cracking the Code: The Secret Language of Plants

Jennifer Bulava, County Naturalist
Division of Parks, County of Burlington



When we think of plants, we don't think of them as communicating at all. They generally stay in one place, don't make noise, and go about their business of flowering and setting seed. However, taking a much closer look at flowers can open up an entire hidden world that is more complicated than one ever imagined. "Because we appreciate the colors, forms and fragrances of some flowers, we think we have gotten the message. In fact, much of the communication between plants and animals is easily missed, the code broken only by botanists and ecologists devoted to deciphering information intended for insects and birds." states Bob Fulcher of Tennessee State Parks. Indeed there is an incredible amount of communication going on between a plant and the animal pollinator it depends on.

Eighty percent of the world's flowering plants are pollinated by animals, mostly by insects, birds and bats. The remaining twenty percent are essentially wind-pollinated. Wind pollinated flowers are plain, greenish colored, and we are likely to walk right past them without even noticing them. The pollen they produce is copious and the cause of our allergies (pine and oak trees, grasses, ragweed, etc.). Animal-pollinated flowers, by contrast, have bright colors, patters and scents that are definitely noticeable to both us and their intended pollinators.

Take for instance, an iris: beautiful colors, with contrasting color near the reproductive parts and colored streaks/lines. These patterns help direct the bee to the place where pollination would occur and where the bees need to go for food.

The color, scent, and structure of flowers are also specific to the proper types of pollinators they attract. A great example is with red flowers: these are most visible to birds, they usually have no scent (birds have no sense of smell) and have a long tubular structure for a bird's beak to fit inside perfectly. A bee sees in a completely different color spectrum than a bird or human and instead would look for flowers that are white, yellow, or violet, have a sweet smell indicating a nectar source, and have a lip for landing on. Flowers are not pretty colors, patterns and pleasant smells for us – it is all about the pollinators to not waste pollen that won't be transferred to the same species, some flowers hold nectar in such a way that only one kind of insect has access to it. These plants have amazing strategies for attracting the proper pollinator. However this can be a huge disadvantage and indeed a death sentence for the plant if something happens to that one species of pollinator. This situation has already happened in multiple places around the world as pollinators, especially certain bees, become extinct.

Join me for my new PowerPoint presentation on the Secret World of Plants and Pollinators, part of my Tuesday Talks. More details are listed below!

Cracking the Code Learn more about the secret world of plants an pollination
November 9th, 10:00 a.m. Rutgers Cooperative Extension of Burlington County 2 Academy Drive, Westampton
Registration required, 609 265 5858

Fall Foliage Nature Walks

Join us for a beautiful autumn walk through the woods to learn and appreciate the diversity of native trees.
Dress for the weather. Rain cancels. **Registration required due to lack of parking. Please call 609-265-5858.**

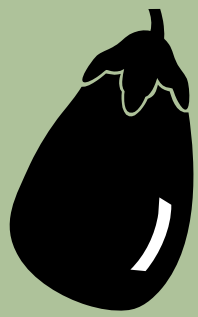
Saturday, October 16, 10:00am Crystal Lake Park. Call for directions. **Registration Required**.
Please note: Trails are very steep in sections and not recommended for inexperienced hikers. Please wear proper shoes for hiking!
Sunday, October 24, 3:00pm Smith's Woods section of Smithville Park. Registration suggested. Meet at the kiosk at East Railroad Ave. parking lot. Flat trail allows for easy walking, but does include some steps.

Autumn children's program – Leaf Hunt

Smith's Woods Area, Smithville Park Thursday, November 4 *(Rain date: Friday November 5)* **10:00am**
Schools are closed for the teacher's convention, but the County Parks are always open! Take a short walk on the red trail to look for different types of leaves that have fallen to the ground. Collect your favorite ones, then learn what tree they belong to. Afterwards, students will do a leaf rubbing that they can take with them. Bring a bag to collect leaves in.
Meet at Smith's Woods main parking lot on East Railroad Ave. near picnic area and restrooms. Children must be accompanied by an adult. Parents/guardians should be prepared to stay for the duration of the event (typically an hour to an hour and a half).
Please call 609-265-5858 to register so that we have enough materials for everyone.

What is in season now?

Apples
Grapes
Raspberries
Beets
Broccoli
Cabbage
Cauliflower
Eggplant
Lettuce
Okra
Peppers
Potatoes
Pumpkins
Tomatoes



For more information visit: http://www.njfarmfresh.rutgers.edu

Visit: www.cocorahs.org

Volunteers working together to measure the precipitation across the nation!

…And the Heat continued from page 1

evaporation. Jack Rabin, Rutgers NJAES associate director for farm services notes that modern center pivot, low pressure irrigation systems use drop nozzles which sprays the water straight down onto the plant, with little water lost in the air. This type of irrigation can also cool plants off, but does increase conditions conducive to disease. Drop or trickle irrigation, efficiently applies water to the root zone, resulting in even less evaporation. Rabin points out that the costs of irrigation are not cheap. Simply in terms of energy costs in the US, 6% of all farm expenses are related to running pumps for irrigation.

Despite the consequences of excessive heat and dryness, Wes Kline points out that growers would rather have dry warm weather than rainy or rainy and cold weather. Under those conditions there are more disease problems. And, Kline reveals another benefit: hot weather will increase sugar in some crops like tomatoes, watermelon, muskmelon, etc. as long as growers have sufficient water to keep the crops growing at a normal rate. The same holds true for Jersey peaches. Jerome Frecon, Rutgers NJAES agriculture agent for Gloucester County reports that this year's peach crop is also sweeter than usual, and the warm weather was also responsible for the crop ripening two weeks earlier than usual.

So, if you are looking for an intense sweet experience, visit a local farm stand and get them while they're hot!

For more information on the Jersey Fresh Information Exchange visit: http://www.njfarmfresh.rutgers.edu

Events

Backyard Composting Workshop
September 25th 10:00 or 11:30
Rutgers NJ EcoComplex
Free event, registration required
609 499 1001 x271
www.co.burlington.nj.us/pages/events.aspx

Bringing Veggies to the Table
September 30th 6:00 p.m.
Rutgers Cooperative Extension of Burlington County
$3 per person, registration required
609 265 5051
www.co.burlington.nj.us/pages/events.aspx

A Gathering of Gardeners
October 9th 8:30 a.m. to 3:30 p.m.
Medford Leas
$35, includes lunch. Registration required
609 654 3527

Pinelands Discovery Festival
October 10th, 11:00 – 4:00
Historic Whitesbog Village
$7 per car
609 893 1765

Annual Cranberry Festival
October 16th, 9:00 – 4:00
Downtown Chatsworth
609 726 9237

Fall Sky Watch
October 30, 6:00 p.m. to 11:30 p.m.
Franklin Parker Preserve, Chatsworth
908 234 1225

Botanical Mis-Adventures in the NJ Pine Barrens
October 30th, 11:00 a.m.
Rarefind Nursery, Jackson
$5 per person, registration required
732 833 0613

Tea Seminar: Drink to Your Health
November 5th, 10:30 a.m.
Rutgers Cooperative Extension of Burlington County
$5 per person, registration required
609 265 5051
www.co.burlington.nj.us/pages/events.aspx

America Recycles Day: Open House
November 14th 10:00 – 3:00
Robert Shinn Recycling Center
Free event!
www.co.burlington.nj.us/pages/events.aspx

Renovating Your Lawn

James A. Murphy, Ph.D. Extension Specialist in Turfgrass Management
Rutgers NJAES Cooperative Extension

Lawn areas which become unattractive and disappointing in performance generally contain a sparse and an unhealthy stand of lawn grasses. Also, an infestation of weeds is characteristic of these areas. There are many potential factors for these conditions. When a lawn has adequate soil drainage and a relatively smooth contour, renovation can correct unfavorable conditions such as: 1) Sparse and uneven stand of desirable lawn grasses, 2) Infestation of undesirable broadleaf and grassy weeds, 3) Improper soil pH, 4) Low fertility, 5) Minor discrepancies in grade, 6) Soil surface compaction, 7) Excessive thatch accumulation, and 8) General neglect.

When considering improvement of a lawn area, specific renovation procedures are determined by:

• Identifying the factor or factors which contributed to a failure of the lawn. If corrective steps are not taken, the net result may be an exercise in futility.

• Evaluating the condition of the lawn in question to determine the most effective procedure.

Specific steps for renovating should be based on the condition of the lawn and problems needing attention. Specific steps for less than 30 percent desirable lawn grasses are present with thatch layer less than 1 inch:

1. Submit a representative sample of soil for determination of soil pH and nutrient status.

2. Apply glyphosate according to directions and all precautions on the container. Glyphosate, a non-selective herbicide, will effectively eradicate plant growth in the treated area. Retreat areas which do not show complete eradication after 10 days.

3. Mow closely – set the mower at ¾ to 1 inch.

4. Fill small isolated depressions in grade with high quality topsoil.

5. Apply lime based on a soil test.

6. Spread fertilizer based on a soil test. Nitrogen should be applied at 1 pound per 1000 square feet.

7. Dethatch and/or aerify with a machine specifically developed for this purpose. Adjust the rotating blades to penetrate completely through the thatch layer and at least ½ inches into the soil. Coring holes should have a maximum spacing of 3 inches.

8. Seed with a high-quality turfgrass mixture adapted to the intended use and expected level of maintenance.

9. Drag the area with a steel door mat or a piece of cyclone fence when loose thatch material on the surface is relatively dry. Rake excessive thatch from the surface.

10. Water thoroughly. Light frequent watering (daily) may be continued to hasten germination and establishment of newly seeded lawn grasses.

Late summer to early fall is the most appropriate season for this procedure. Early spring is the next best choice. In the spring, however, success is usually more difficult. An increased weed problem, particularly crabgrass, can be expected from renovation in the spring.

Rutgers Cooperative Extension recomends fine fescue grass seed. Fine fescue is a cool-season grass that grows well under low maintenance situations and is adapted to dry infertal soils. Fine fescues can often be found in grass seed mixes.

More information on lawn establishment can be found in Rutgers Cooperative Extension publication FS 584, *Seeding Your Lawn* and publication FS 688, *Fine Fescues*. These fact sheets and others can be obtained at your local Cooperative Extension office or online at: http://www.njaes.rutgers.edu/pubs/

Join in for a game of croquet at **Arts in the Park!** Play in the rose garden at the Smithville Mansion. Sunday, September 26th 11, 12, 1, 2, 3,and 4.

RUTGERS
New Jersey Agricultural Experiment Station

NJAES Cooperative Extension
Rutgers, The State University of New Jersey
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Burlington County *Outside*

Burlington County “Outside” Newsletter provides residents with local information from various County offices representing diverse expertise of the natural environments in Burlington County. The Burlington County “Outside” Newsletter aims to give you the most up-to-date information on local topics quarterly.

Do you know someone who would like to receive this newsletter? To sign up please contact Meredith Melendez by email with the subject line: Outside Newsletter to: burlingtonmg@njaes.rutgers.edu