



“What’s Growing On...”

Volume 13 Number 2 Summer 2010 Edition Published Quarterly

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Permaculture Brochure



RUTGERS COOPERATIVE EXTENSION ON THE RADIO

For agriculture news and horticultural tips, listen to me, Viola Carson, on the RCE Agricultural Program on Monday, Wednesday & Friday on WSNJ AM 1440 & 1240 at 12:15 pm announcing local workshops, seminars, and horticultural tips.

The Master Gardeners are available at the Extension Office Tuesdays through Fridays to answer your gardening questions. They will be answering questions from 9:00 a.m.—12:00 noon at 856-451-2800 through October 15th.



FROM THE DESK OF VIOLA CARSON

Our weather is three weeks ahead this year. This is the first year I remember local strawberries for Mother's Day. Thankfully the wet spring has kept the gypsy moth populations down again. Roses seem to be blooming everywhere.

We will continue the Evening Garden Series the second Thursday of the month from 6:30-8:30pm here at the Rutgers Cooperative Extension Center. Our topic June 10th is growing roses in the garden.

In Amy Stewart's book, "Flower Confidential" she visited with cut flower growers large and small. Roses are a serious business in Holland, as they are in every other flower producing country in the world. In the Dutch auctions roses account for seven hundred million dollars' worth at auction. When the volcano in Iceland erupted and air travel was halted I wondered how many roses sat dropping petals never to be enjoyed.

Roses are native to China, northern Europe, and the United States. *Rosa gallica* was well known in Roman times for its scent. The hybridizing work that created the flower we see in flower shops today began in the eighteenth century. A new class of roses started arriving from China, and because they were often sent on ships carrying tea leaves, they came to be called tea roses.

Any problems or questions please call or bring into the office. The Master Gardeners are ready and waiting to answer your questions. They are here Tuesday –Friday 9am-12:00noon.

Actinomycetes

Actinomycetes are a group of microorganisms, intermediate between bacteria and true fungi, that usually produce a characteristic branched mycelium. These organisms are responsible for the earthy smell of compost. They are widely distributed and are powerful cellulose decomposers.

Composting occurs through the efforts of microorganisms. Worms and insects play a role in composting but microorganisms are the main workers. The three major groups of microorganisms that participate in composting are bacteria, fungi and actinomycetes.

Bacteria are small, simple organisms. They are the most numerous and the fastest decomposers.

Fungi are larger organisms. They network and form groups of individual cells in strands or filaments. They are better at decomposing woody substances and other decay-resistant materials.

Actinomycetes form filaments like fungi, but because of their small size and cell structure, they are technically classified as bacteria.

According to "Soils and Soils Management", by Gustafson, actinomycetes occupy a sort of transition stage between filamentous fungi and one-celled bacteria. The actinomycetes are most numerous in well aerated soils, especially those that have a reaction near or above a pH of 7. Numbers are greatly increased by applications of farm manure. Unlike fungi, actinomycetes are sensitive to acidity. They decompose soil organic matter, even old humus and liberate the nutrients contained for the use of higher plants. The actinomycetes utilize carbohydrates and also protein for energy. The odor of freshly plowed soils is credited to this group of soil organisms.

Aphids

Aphids suck plant juices and cause stunted and distorted growth of flowers, shrubs, and trees. A black sooty mold fungus grows on honeydew produced by aphids. Most deciduous and many evergreen trees and shrubs, as well as flowers, may be attacked. Aphids are small, soft-bodied, slow-moving insects. Many are green, but black, brown, gray, and yellow aphids also occur. Winged and wingless forms are produced. Aphids are most often found on the undersides of leaves or on stems at the tips, but sometimes large numbers feed on the roots of plants. Most aphids winter as eggs on the bark of twigs. A few hibernate as nymphs and adults. Activity starts as soon as leaves appear in the spring. Rapid reproduction continues throughout the summer, and several generations may be produced. In many species, all individuals are females. Other species produce males only in the fall.

Beneficial insects that eat aphids are lady beetles, green lacewings and hover flies. Yarrow, morning glory and golden-rod attract lady beetles. Green lacewings are attracted by yarrow and wild carrot. Hover flies are attracted to coreopsis, candytuft and morning glory.

Ants often introduce an aphid infestation. Ants feed on the sweet aphid secretions and keep them like we keep cows or livestock. Ants will actually carry the aphids to a food source and protect them from predators. Avoid excessive use of high-nitrogen fertilizer, which favors aphid reproduction.

Two leaf spots walked into the office this week.
The first was an insect and the second a fungus



Maple Eyespot Galls

The maple eyespot gall midge, *Acericecis ocellaris*, is also called the maple leafspot gall midge. The word *ocellaris* comes from the Latin word *ocellus* meaning eye (hence the name [eye-spot gall](#)). An official common name does not exist for this insect. Maple eyespot gall midges emerge in early spring and lay their eggs on the newly-expanding leaves. As the maggots hatch and feed on the tender leaf growth, they secrete substances which cause the leaves to form dimples around the [maggots](#) (resulting in striking yellow and red circles around the gall). The maggots soon mature and drop to the soil surface where they evidently dig into the soil to spend the rest of the summer, fall and winter. Another generation of midges will emerge the next year. Insect populations vary from year to year due to weather, predation, diseases and additional factors; thus, the maple eyespot galls may be much less noticeable next year. Because they do negligible damage, their management is not necessary.

Maple leaf spots caused by a fungus

The fungus creates small brown spots on the leaves and, in severe infections, when most of the foliage is affected, the leaves may be shed prematurely. Growing leaves are infected in the spring and initially develop yellowish-green spots. The leaves eventually die and turn a brownish color. Black fruiting bodies of the fungus develop in the infected spots around the end of autumn. The spores produced by these fruiting bodies over winter in the leaf litter and cause new infections the following spring.

As with many foliar fungal diseases, cool, wet spring weather greatly favors the spread of the disease. To protect ornamental trees, the leaves of affected trees should be carefully collected and destroyed by composting.

Female Dobsonfly, or Fishfly

The Eastern Dobsonfly, *Cordulodes cornutus*, have a large wingspan 2" to 4 7/8". The females are smaller than the males who would never be confused with fishflies because of the tusk-like mandible with smaller mandibles but still capable of biting forcefully. Antennae are segmented. Fisherman use dobsonfly larvae, called hellgrammites, as bait since trout seem to be attracted to them as a natural food.

On closer inspection Fishflies, *Chauliodes spp.* can have serrated antennae on one side, small mandibles, compound eyes, dark and prominent weak legs 3/4-1" in length.

Both dobsonfly and fishfly larvae live in streams under stones. They are active predators.



Getting to know the Wildflowers at the Extension Center

Pussy toes are growing under the pine trees at the entrance. Master Gardeners were learning how to identify native plants during a class taught by Renee Brecht from Citizens United to Protect the Maurice River. Using "Newcomb's Wildflower Guide" by Lawrence Newcomb, five standard questions have to be answered for identification. They are:

- 2 flower types
- 2 plant types
- 1 leaf type



The combination of these three classifications determine the plant group to which your specimen belongs. Using Pussy toes as an example: 8 flower parts indistinguishable; 2 wildflower with basil leaves only and 2 leaves entire. Therefore, pussy toes classification is 8-2-2. Starting with page 400, pussytoes is one of the choices and a line drawing confirms our findings. A written description further helps. Time of bloom, height of plant, and where plant is found all agree. This takes practice and botanical groups get together just to hone their identification skills. A great plant finder can be found on the Citizens United website at www.cumauriceriver.org

Grubs in the Vegetable Garden

Grubs in the vegetable garden can be a problem. Rutgers Fact Sheet 293 notes adults prefer to deposit eggs in soil that is well covered with vegetation, so a clean, weed free garden is important. Also, grub populations increase when rainfall is above normal, so well-drained soils may be less conducive to grubs. Insecticide control for full-grown grubs in the garden is impractical, unnecessary, and ineffective. If there are an abundant amount of grubs, some behind the scenes questions have to be asked:

- Is there a beetle trap hanging nearby with pheromone drawing extra beetles to your garden?
- Is there a yard light illuminating the area?
- Are there plants nearby that attract beetles such as roses?

North Carolina Extension reminds us, "The best time to treat grubs is early August when they are small. White grubs are near the surface again and are often seen as people are planting and working outdoors this time of year. The large grubs feed for a very short period of time and are very difficult to control in the spring. Most attempts to control them in May are exercises in futility. The optimal time to control white grubs is in August after the adults that develop in June and July from the current generation of grubs lay eggs and those eggs hatch into little, aggressive feeders that are much easier to control".



Imported Cabbage Worm

The Cabbage White is a non-native species of butterfly introduced from Eurasia to Quebec in 1860. In 1881 it could be found all over the eastern United States. The Cabbage White's larval plant food is anything from the cabbage family.

Vegetable gardeners know them as the Imported Cabbage Worm that magically appears when broccoli and cabbage six packs are brought home from the garden center.

The following crops serve as hosts for the cabbage worm:

- Broccoli
- Brussels sprouts
- Cauliflower
- Kale
- Collards
- Lettuce
- Mustard
- Radish
- Turnips
- Horseradish
- Kohlrabi and sometimes

The larvae chew holes in the foliage. Most early feeding occurs on the outer leaves, but the older larvae tend to feed on the new growth and can tunnel the head of many plants.

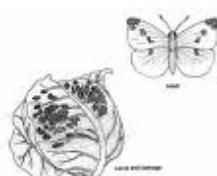
Adults are the familiar white butterfly seen on sunny days in the spring. There are usually 1 or 2 black spots on the forewing. Lemon colored eggs are attached on the ends of the leaves. Young larvae are pale green; as they mature they become a velvety green with a faint yellow stripe down their backs and a row of faint yellow spots on each side. If you care to look that close.

Floating row covers are a good preventative measure to prevent egg laying on vegetable plants. Hand picking is effective if you have the time and patience. Eggs will be found on upper and lower leaf surfaces as well as in the head. Garlic can be used as an insecticide against the cabbage worm. Bt, sevin or malathion may also be used for control. Begin insecticide treatments when you find an average of one worm per plant. Follow directions on label.

Social wasps are predators of the cabbage butterfly. They include yellow jackets, hornets and paper wasps. Yellow jackets are great opportunists, feeding on almost any soft bodied insect.

Share the outer leaves with them, eat the inner head of cabbage and get rid of the outer leaves in the compost. At season's end, harvest the crop without delay. Destroy or plow under all plant residues.

For more information read the Rutgers Fact Sheet #286.



Azalea Leaf Gall

Washington State University Cooperative Extension

Several samples of Azalea leaf gall came in the end of May. Azalea leaf gall symptoms are light green, fleshy, bladder-shaped galls that appear on the leaves. The galls change from red to brown, become hard, and are covered with a powdery white bloom. On Rhododendrons the leaves bleach out but are not knarled and thickened like on the azalea leaf. Partially affected leaves have a distinct line between the healthy green and the chlorotic tissue. A white fungal growth develops on the underside of the leaves. A rosette of affected leaves may occur at the ends of branches. Blossoms and seed pods may also be affected.

The fungus, *Exobasidium vaccinii*, is responsible for this disease. Remove and destroy affected leaves. Spray with a registered fungicide just prior to bud break and repeat two to three weeks later. In June we are past bud break, so remove and destroy affected leaves.

Patty's Petunia Gray Mold (Botrytis)

People of habit are a wonderful thing. In nature, gardeners of habit can get set up for disease problems. This wet humid season has once again brought gray mold to petunias. First, the flowers become spotted then brown spots appear on the leaves and stems. As the disease progresses a fuzzy brown mold may form on the infected tissue. Of course the habitual gardener is also a pincher and regularly grooms her plant so it may not progress to the fuzzy stage. If the removed blossoms are dropped to the ground the cycle will continue. The overhead watering also spreads the disease. The fungus is spread by the wind, splashing water, or infected pieces of plant tissue contacting healthy tissue. Infection is more of a problem in the spring and fall, when temperatures are lower. The cooler gardener has more time to tend and fuss over the newly planted colorful selection of petunias.

A few tweaks will solve this problem. Spray infected plants with fungicide at regular intervals of 10-14 days for as long as the weather is favorable for the disease. Rutgers recommends *bacillus subtilis*, chlorothalonil, neem oil or thiophanate-methyl(pre bloom only) and repeat as per label directions. Remove infected flowers and leaves, and clean up plant debris, place in the trash. Avoid wetting the flowers when watering. They do not need a shower daily. Water the soil.

Petunia grows best in full sun and fertile, moist, well drained soil with a pH of 6.0 to 7.5. Remove old blooms.



IPM Toolbox

Rutgers Fact Sheet #22

A successful Integrated Pest Management (IPM) program utilizes a decision-making process regarding the pest, host, environmental conditions, and control options. There are many products to control insect pests. The IPM Fact Sheet's purpose is to familiarize us with some of these materials.

The first step to IPM is accurate identification. Secondly determine population size. Know where to look for the insect damage and their life cycle and habits. Finally, after taking inventory of the problem, you can make a decision to control or not to control.

IPM is a philosophy of management that may involve several different methods of controlling a pest that is environmentally safe and will keep the pest from causing economic damage. These methods may include the use of biological controls, cultural practices, mechanical control, and chemical controls.

Botanicals are derived from plants and have insecticidal properties. These include Azadirachtin from the Neem tree, Pyrethrin found in chrysanthemums, and Rotenone from the roots of the derris plant.

Beneficial nematodes are microscopic roundworms not harmful to people, pets or plants. These work by entering the host's body and releasing bacteria that is present in the nematodes body. It is the bacteria that kill the pest rather than the nematode.

Horticultural oils are produced from highly refined petroleum or plant products. Oils work by smothering the pest. They work best on soft-bodied insects.

Insecticidal soaps are composed of potassium salts of fatty acids. Use caution when using insecticidal soaps since some plants are sensitive to soaps. Soaps work by degrading the insects exoskeleton and in effect causing the insect to lose body fluid and die. Again works best on soft bodied insects.

Insect growth regulators are insecticides that disrupt the normal formulations of the insect's exoskeleton. The insect is sent into a premature molt and dries out.

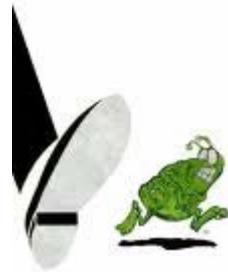
Microbial insecticides are naturally occurring bacterium found in soil. *Bacillus thuringiensis* or Bt is used to control caterpillars that develop into moths.

Parasitoids lay their eggs inside or on the host insect. As the developing parasitoid larvae develops, it consumes the host eventually killing it. It's like getting a ride on an edible bus. Growing plants in the landscape that attract beneficial insects to your yard is important.

Naturally occurring **predators** are insects or spiders that feed on and consume other insects. Some familiar insect predators are ladybugs and lace wings.

IPM made easy, follow these step by step instructions:

- Proper plant selection
- Biological control
- Environmental and Cultural controls
- Chemical control
- Crop rotation. Plan the garden so that the same family groups are not planted in the same area ever season.
- Family groups are:
 - **Composite:** lettuce, chicory, endive, escarole, salsify, dandelion, Jerusalem artichoke
 - **Goosefoot:** Swiss chard, beets, spinach
 - **Grass:** corn, sweet corn
 - **Legumes:** peas and beans of all types
 - **Lily:** onions, garlic, leek
 - **Mustard:** cabbage, cauliflower, Brussels sprouts, rutabaga, kale, turnip, mustard, radish, collard
 - **Nightshade:** tomato, potato, eggplant, pepper, tomatillo
 - **Parsley:** carrot, parsley, parsnips
 - **Squash:** watermelon, cucumber, squash, cantaloupe, honeydew, melon, pumpkin



Parasitic wasp



APHID "MUMMY" WITH
EMERGENCE HOLE

Evening Garden Classes Continue

The evening garden classes at the Extension Education Center, 291 Morton Avenue in Rosenhayn will continue through August. The classes are being held the second Thursday of each month. The classes run from 6:30-8:30 p.m. and the cost is \$10.00 per person.

The following is the schedule and description for the remainder of our classes:

June 10th

Grow Roses in the Landscape



This class will show you how to feed, prune, mulch, weed, water and cure America's national flower. We will go over planting requirements, location, soil preparation and companion plants. Bring a soil sample and we will test your pH. Roses like a pH of 6.7. Voles like roses as much as we do, find out what to do to protect the roots. I will also give organic solutions so you can have beautiful, healthy rose bushes.



July 8th

Enjoy the Butterfly Garden

Our Butterfly class will be taught by Kim Conner. Kim has raised butterflies for several years now. She will present a beautiful presentation of how, we as gardeners, can meet the life cycle needs of the butterflies. She calls it family planning. You will learn how to attract and keep many different butterflies in your yard.

August 12th

Preserve your Harvest by Canning and Freezing

Learn to preserve food safely using recommendations from the USDA. Sharon Blasé will demonstrate how to can several fruits and vegetables. Recipes for jams, jelly and pickles will be shared. Quick and easy freezing and drying will also be discussed. Gifts from your home make lovely gifts.



To register for one or all of these classes, please call Viola Carson at 451-2800 or email: violaca@co.cumberland.nj.us

Things to do in June



- Allow the tops of spring-flowering bulbs to completely wither and turn brown.
- Protect ripening strawberries from birds with netting or row cover fabric. FS97 & FS98
- Make plans to pick locally grown strawberries.
- Thin developing fruit on fruit trees if there seems to be an excessive amount. This will produce larger fruit.
- Prune fruit trees to eliminate suckers and watersprouts.
- Plant more gladiolus bulbs for a succession of bloom.
- Plant seeds of cabbage, cauliflower and broccoli directly in the garden for fall garden transplants.
- Check plants carefully and regularly for insect pests.
- Cabbage worms can be safely and effectively controlled with Bt.
- Be sure to thin vegetables, particularly root crops, so they'll have room to grow properly. FS561
- Tomatoes that are supported with stakes or cages tend to have cleaner and larger fruits. FS678
- Harvest established asparagus beds through the end of the month. FS221 & NE221
- As perennials finish blooming, cut off the blooms and fertilize the plants.
- Stake perennials as needed.
- Apply mulches around shrubs, perennials and annuals to maintain soil moisture and even temperature.
- Use bark mulch around young trees to protect them from lawn mower damage.
- Apply a labeled fungicide every 7 to 10 days to protect roses from black spot.
- Prune climbing roses after they have bloomed. Remove dead and older canes. FS944
- Fertilize roses during their first bloom.
- Pinch established chrysanthemums to develop fuller and stockier plants.
- Balled and burlapped or container trees and shrubs can still be planted. FS376
- Take softwood cuttings of shrubs to start new plants. FS49
- Remove spent flower clusters or forming seed pods from azaleas, lilacs and rhododendrons.
- Shape the growth of pines by snapping out one half to two thirds of the new candle growth.
- Raise the mower blades to a height of 2 to 2 1/2 inches and mow frequently. Remove no more than one third of the total length of the grass blade.
- Lawn and garden areas need a minimum of one inch of water in the form of rain or irrigation each week.
- Move some houseplants to a screened porch or shaded location outdoors.
- If you have plants that you suspect may be facing a pest problem, bring in a representative sample to your local county extension center and they will help diagnose the problem and recommend control.
- Fruit trees should be on a regular spray program. See your local extension website for tree spray program bulletins.
- Vegetables can be planted in containers and grow them on decks, patios or other small spaces. Use potting mix when planting.
- Fertilize zoysia lawns now with Merrifield Premium 26-4-12.
- You can move houseplants outside to the deck or patio and enjoy them outdoors for the summer. It is best to gradually introduce them to more direct sunlight to prevent the leaves from being burned.
- Feed houseplants with a good quality indoor plant food such Osmocote (slow-release granular).
- If needed, re-pot root bound houseplants to a larger pot. Use potting mix when repotting houseplants.
- Hibiscus, Jasmine, Oleander and Mandevilla are just some of the flowering tropical plants you can add to your deck, patio or balcony.
- After your vegetable garden is well established, it is best to water it thoroughly once a week rather than giving it a light watering everyday. That way, a deeper root system is encouraged to develop, which will later help the plants tolerate dry weather.
- *Have a super summer!*

Gardener's Checklist for July



Check out the tasks below:

- Transplant new chrysanthemum plants.
- Start a compost pile. FS74
- Attend the Cumberland County Fair.
- Sidedress rhubarb with well-rotted manure or humus from the compost pile.
- Plant seeds of early cabbage, ornamental kale and broccoli in cell packs early in the month for transplanting to the fall garden in early August.
- Cabbage worms can be safely and effectively controlled with Bt. FS231 & FS277
- Continue pulling weeds. Put them in the compost pile.
- Train staked tomatoes to one or two vines by removing all other branches as soon as they appear.
- Thoroughly water your newly planted trees and shrubs. FS786
- As perennials finish blooming, cut off the blooms and fertilize the plants.
- Stake perennials as needed.
- Apply mulches around trees, shrubs, perennials and annuals to maintain soil moisture and an even soil temperature; cover the soil 2" thick. Keep mulch away from the trunks of trees and shrubs. FS122
- Apply a labeled fungicide every 7 to 10 days to control black spot on roses.
- Prop branches of heavily loaded fruit trees.
- Renovate established strawberry plantings.
- Pinch established chrysanthemums to develop fuller and stockier plants early in the month.
- Make another planting of snap beans, beets, carrots, cucumbers and zucchini. FS562 & FS57
- Harvest vegetables regularly for continued production. FS988
- Remove spent flowers from annual flowers to keep them flowering.
- Divide clumps of crowded iris and Oriental poppies.
- Continue to mow the lawn at 2-1/2 inches.
- Water the lawn and garden deeply or don't water at all. FS829 & EB431
- Fertilize your roses. FS944
- Apply all pesticides according to label directions.
- Perennials that provide interest in the month of July include Daylillies, Rudbeckia, Phlox, Veronica, Ligularia, Tickseed and much more.
- Stop pinching Chrysanthemums by July 16th.
- Do not prune Azaleas and Rhododendrons after the second week of July for they soon will begin setting their buds for next year's blooms.
- Use Diatomaceous Earth to control crawling insects such as cockroaches, ants, slugs, silverfish, earwigs, fleas, spiders, millipedes, centipedes and carpet beetles. Use indoors and outdoors.
- Time to control aphids, lace bugs, bagworms, birch borer, fall webworm, Japanese beetle, obscure scale, oyster shell scale, euonymus scale, pine needle scale, rhododendron borer, apple tree borer and spider mites.
- Use Round-Up or Finale to kill weeds and grasses in brick patios and walks.
- Fruit trees should be on a regular spray program.
- Control slugs and snails on hosta and other plants with diatomaceous earth.
- Fertilize fruits and vegetables as needed with a good quality, slow-release vegetable food such as Osmocote.
- If necessary, spray tomato plants and other vegetables to control diseases.
- Apply a fungicide to the lawn to control turf diseases such as brown patch, dollar spot and others.
- Fertilize zoysia lawns now with a 26-4-12 weighted lawn fertilizer.
- Stay cool!

Gardener's Checklist for August

Here's a list for your monthly job jar:

- Enjoy fresh fruits and vegetables from local farms.
- Now is the time to treat for grubs.
- Fertilize your roses the first week of the month and then don't fertilize them any more this year.
- Be alert for wasp nests when mowing and gardening.
- Deadhead annuals to keep them blooming.
- Control the weeds before they flower and produce seeds.
- Gather herb leaves before their flowers bloom.
- Divide overcrowded spring-flowering perennials.
- Make plans for your fall planting of trees, shrubs and perennials.
- Apply one inch of water to your lawn and gardens weekly during dry periods.
- Check with Extension for the latest recommendations on food preservation. (Evening class Aug. 12th)
- Collards, kale, leaf lettuce, mustard, spinach, radishes, turnips and bok choy are good crops for your fall garden.
- Early September is an ideal time for sowing grass seed or establishing a new lawn. Prepare now to renovate that tired lawn.
- Divide and transplant garden lilies and lilies-of-the valley.
- Sow seeds of California poppy, columbine, delphinium and gloriosa and Shasta daisy.
- Watch for garden supply sales.
- Take cuttings of begonias, coleus and impatiens for winter houseplants.
- Remove melon blossoms at the end of the month that won't have time to set fruit. Ripening melons will then be larger.
- Donate vegetables to a hunger center.
- Fall mums are in—plant now for a colorful autumn.
- Check all plants, especially newly planted ones, for water on a regular basis. Water deeply and thoroughly as needed.
- Spruce up your summer landscape with beautiful color in containers and hanging baskets. Be sure to use potting mix when planting and a water-grabbing polymer such as Soil Moist to reduce the frequency of watering.
- Gator bags provide a great way to keep trees watered during hot and dry months. These bags, which can hold up to 20 gallons of water, are secured to the trunk of the tree, where they release the water slowly to the root ball over the course of 15-20 hours.
- Fertilize fruits and vegetables as needed with a good quality, slow-release vegetable food such as Osmocote.
- Stake tomato plants.
- If necessary, spray tomato plants and other vegetables to control diseases.
- If needed, repot root bound houseplants to a larger pot. Use a potting mix when repotting houseplants.
- Colorful plastic golf tees can be stuck in the ground to mark the location of dormant plants such as spring bulbs or perennials.
- Since container-grown plants have a limited area from which to absorb water, plants in a sunny location may require watering several times a week. Check plants often to avoid water stress.
- Check on water needs of hanging baskets daily in the summer. Wind and sun dry them much more quickly than other containers.
- Clean up fallen rose and peony leaves. They can harbor disease and insect pests over the winter if allowed to remain on the ground.
- *Have a great month!*



Rutgers Cooperative Extensions Fact Sheets

Fact Sheet Name

FS #	
Fact Sheet 22	IPM Tool Box
Fact Sheet 58	Mulches for vegetables
Fact Sheet 74	Backyard leaf Composting
Fact Sheet 77	Aphids
Fact Sheet 98	Strawberries in the home garden II: Maintenance
Fact Sheet 100	Grape Growing in the home garden pest control
Fact Sheet 101	Bramble Spray Schedule for home gardens
Fact Sheet 108	Renovating your lawn
Fact Sheet 112	Apple pest control schedule for NJ home orchards
Fact Sheet 113	Peach/nectarine pest control schedule for NJ home orchards
Fact Sheet 114	Pear pest control schedule for NJ home orchards
Fact Sheet 115	Cherry pest control schedule for NJ home orchards
Fact Sheet 116	Plum pest control schedule for NJ home orchards
Fact Sheet 117	Using leaf compost
Fact Sheet 119	Weed control in home lawns
Fact Sheet 120	Weed control in Pebble lawns, driveways and patios
Fact Sheet 188	Figs in the home garden I: general information
Fact Sheet 189	Figs in the home garden II: culture and management
Fact Sheet 286	Imported cabbage worm
Fact Sheet 293	White grubs
Fact Sheet 355	Poison ivy and its control
Fact Sheet 399	Vole ecology
Fact Sheet 450	Using water wisely in the garden
Fact Sheet 512	Botrytis blight in highbush blueberries
Fact Sheet 521	Zoysia grass lawns in New Jersey
Fact Sheet 547	Diagnosing and controlling fungal diseases of tomatoes
Fact Sheet 678	Growing tomatoes in the home garden
Fact Sheet 797	Soil testing for home lawns and gardens
Fact Sheet 814	Managing diseases of landscape turf
Fact Sheet 829	How to protect water quality & have a beautiful lawn: 10 steps to proper fertilization
Fact Sheet 866	Using horticultural oils
Fact Sheet 930	Natural pest control
Fact Sheet 944	Roses and their care
Fact Sheet 988	Picking vegetables in the home garden
Fact Sheet EB296	Insects of Beans, Peas, leafy vegetables and carrots family (\$1.00)

**Call 856/451-2800 ask for Viola Carson. When calling to request a fact sheet refer to the Fact Sheet by FS# or by name.
All fact sheets are free unless otherwise noted.**

What's Growing On is prepared by Viola Carson, Horticultural Assistant, Rutgers Cooperative Extension of Cumberland County.

Sincerely,

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WHAT IS PERMACULTURE?

Permaculture is about designing ecological human habitats and food production systems. It is a land use and community building movement that strives for the harmonious integration of human dwellings, microclimate, annual and perennial plants, animals, soils, and water into stable, productive communities. The focus is not on these elements themselves, but rather in the relationships created among them by the way we place them in the landscape. This synergy is further enhanced by mimicking patterns found in nature.

A central theme in Permaculture is the design of ecological landscapes that produce food. Emphasis is placed on multiuse plants, cultural practices such as sheet mulching and trellising, and the integration of animals to recycle nutrients and graze weeds. However, Permaculture entails much more than just food production. Energy-efficient buildings, waste water treatment, recycling, and land stewardship in general are other important components of Permaculture. More recently, Permaculture has expanded its purview to include economic and social structures that support

the evolution and development of more permanent communities, such as co-housing and eco-villages. As such, Permaculture design concepts are applicable to urban as well as rural settings, and are appropriate for single households as well as whole farms and villages. From households to bioregional planning,

Hands-On Permaculture Design Certificate Course

Permaculture is about designing ecological human habitats and food production systems. It is a land use and community building movement that strives for the harmonious integration of human dwellings, microclimate, annual and perennial plants, animals, soils, and water into stable, productive communities. The focus is not on these elements themselves, but rather in the relationships created among them by the way we place them in the landscape. This synergy is further enhanced by mimicking patterns found in nature.

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Hands-On Permaculture Design Certificate Course

The Permaculture Design Certificate Course is a training utilizing Bill Mollison's *Permaculture: A Designer's Manual* the essential text. The goal is to achieve a working understanding in ecologically-based planning, site design and management. Areas covered during the course include:

- Permaculture principles
- Concepts and themes in design
- The local ecosystem
- Forms of eco-gardening and farming
- Broad scale site design
- The application of specific methods, laws and principles to design
- Pattern understanding
- Climatic factors
- Plants and trees and their energy interactions
- Water, soils, earth-working and earth resources
- Z-one and sector analysis
- Food forests and small animal husbandry
- Harvest and natural forests
- Aquaculture
- Planning the homestead
- Structures and the built environment
- Craftwork and chores
- Equipment, tools and vehicles
- Renewable energy and energy conservation
- Waste management and recycling
- Permaculture strategies for different climates
- Urban and suburban Permaculture
- Small farm & garden management & marketing
- Strategies of an alternative global nation

Wayne Weiseman is certified by The Permaculture Institute of Australia as an instructor of the Permaculture Design Certificate Course.

To register for this course, please visit www.nofanj.org or phone the NOFA-NJ office at 908-371-1111 extension 3.



www.permacultureproject.com
www.nofanj.org

The Permaculture 8-Day Design Certificate Course

Offered over two long weekends:
July 8-11 and October 21-24, 2010

Co-Sponsored by

NOFA-NJ & The Permaculture Project
at Duke Farms, Hillsborough, NJ



This Hands-On Permaculture
Design Certificate Course
works to build the eco-skills
necessary in all areas of life.

"We seek to create positive and ethical
lifestyle change, develop ecological and
environmental harmony and stability for
future generations, and teach appropriate
technologies that sustain rather than
harm."

Instructor: Wayne Weiseman



www.permacultureproject.com
www.nofanj.org



PERMACULTURE 8-DAY DESIGN CERTIFICATE COURSE

"There is presently no other way for humans to educate themselves for either their survival or fulfillment than through the instruction available through the natural world."

-Thomas Berry



www.permacultureproject.com
www.nofanj.org

Dates and Details

July 8-11 & October 21-24

This course is very intensive and will run from 8 am—6 pm each day. The course will delivered at the Coach Barn at Duke Farms in Hillsborough, NJ and the hands-on design project will be part of the Community Garden at Duke Farms.

The first four days will focus more on the planning components and the second four days will include some implementation at the Permaculture Display Garden at Duke Farms.
For more information about the course content, please visit www.permacultureproject.com

Instructor

Fees

- \$1,300 per person
- \$1,200 for NOFA-NJ members
- -\$100 reduction if registering two family/farm members
- -\$100 reduction for registration by June 25.

Upon completion of the required course work students will be issued a certificate sanctioned by the Permaculture Institute of Australia.

"Cultures cannot survive without a sustainable agricultural base and land use ethic. Permaculture is about the relationships we can create between minerals, plants, animals and humans by the way we place them in the landscape. The aim is to create systems that are ecologically sound and economically viable, which provide for their own needs, do not exploit or pollute, and are therefore sustainable in the long term."

- Bill Mollison

NOFA-NJ & The Permaculture Project

Co-Sponsor the

Permaculture 8-Day Design Certificate Course

NOFA-NJ
334 River Road
Hillsborough, NJ 08844
Phone: 908-371-1111 ext. 3
email: cdeetz@nofanj.org

Project LLC, a full service, international consulting and educational business promoting the ideas of eco-agriculture, renewable energy resources and eco-construction methods.

Registration

Permaculture is about whole systems, not about separate components. Because each element in a landscape or the built environment affects every other element at a site, a complete, comprehensive assessment is tantamount to develop healthy, productive, energy efficient relationships between elements for the benefit of everyone and everything involved in day to day operations and life. By paying attention to all details: topography, climate, water, wind, sun, activity nodes and corridors, buildings, machinery and tools, the waste stream, plants and animals, it enables us to make best use of what is already on the ground, and what we intend to put there. With a dynamic interaction of elements in process, and an assessment of both spatial and temporal attributes, organized around sound ecological principles, we can maximize yields and balance the landscape.

2010 Class of Master Gardeners has graduated!

The Master Gardener volunteers are here at the Extension Center, 291 Morton Avenue, Rosenhayn area, ready to answer your gardening questions every Tuesday - Friday 8:30 a.m. - noon. Call 856-451-2800 with all your garden issues.

As always, we thank you for allowing us to serve you. You may have read in the newspaper that our office will be having furlough days. On those days our office will be closed. Keep an eye on the newspaper for a complete schedule of closing.



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