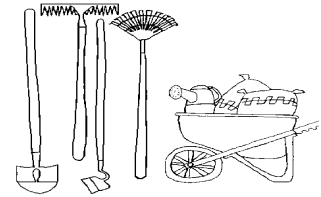


IN THE GARDEN NOW

HELPING GARDENERS PUT KNOWLEDGE TO WORK



JULY 2014

Lisa Rayburn

Lisa Rayburn
Extension Agent,
Horticulture



Flatid Plant Hoppers

What is that fuzzy white stuff?

I have had several calls about waxy white secretions on plants. While several insects and diseases can be described as “fuzzy white stuff”, this month I have been seeing a lot of flatid planthoppers.

The most common flatid planthopper in North Carolina is the citrus flatid hopper. These insects are actually dark but covered with a white, waxy bloom that makes them appear white. They are about ¼ inch long at maturity. The nymphs are laid on the stems of plants and protected by a fluffy, white wax that covers the nymph and the stem around it. Planthoppers feed by sucking plant juices out of the stem. They excrete honeydew, a sweet sticky liquid that can feed the growth of sooty mold.

There are currently no pesticides labeled specifically for planthopper control and it is usually not necessary in home landscapes. You can disperse the nymphs by spraying them with a strong stream of water from the hose.

Mealy bugs, several species of scale, powdery mildew and other fungal diseases can all be described as “fuzzy white stuff”. If you are in doubt, please send us a high quality photo (email to lisa_rayburn@ncsu.edu) or bring a physical sample by the Plant Clinic located at 4024 Richlands Highway.

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Contact Us:

NCCE-Onslow County
4024 Richlands Hwy.
Jacksonville, NC
28540

(910) 455-5873
(910) 455-0977 Fax
<http://onslow.ces.ncsu.edu>

It's not the heat, it's the humidity!

~Dr. Diana Rashash

Have you ever wondered what the “heat index” is and how it is calculated?

Basically, the heat index is a way to determine how warm the outside temperature *feels* when relative humidity is also considered. In eastern NC, the heat index can be an important consideration when planning summer outdoor activities. To help people, the North Carolina State Climate Office has a website where you can see the [current heat index](#) (and other values) for sites across the state. Be informed and stay safe this summer!

Terms:

Excessive Heat Watch: Issued by the National Weather Service when heat indices in excess of 105° F (41° C) during the day, combined with nighttime low temperatures of 80° F (27° C) or higher, are forecast to occur for two consecutive days.

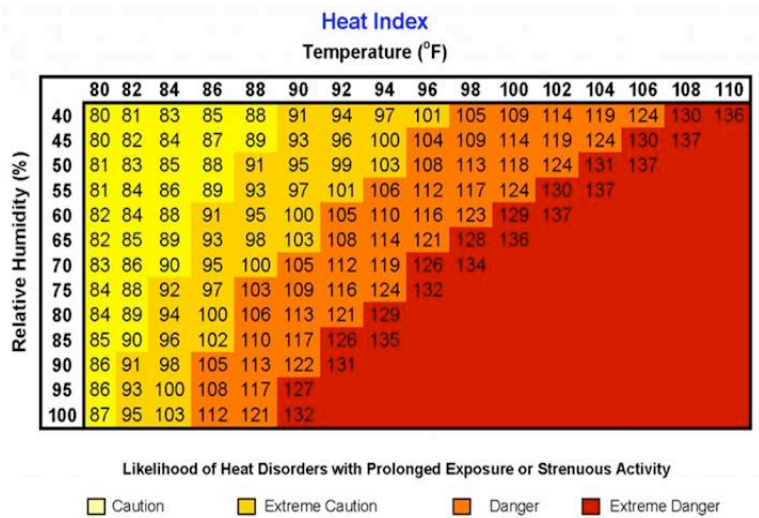
Heat Advisory: Issued within 12 hours of the onset of heat index between 105° F – 114° F for less than three hours per day, or nighttime lows above 80° F for two consecutive days.

Excessive Heat Warning: Issued within 12 hours of the onset of heat index of at least 105° F for more than three hours per day for two consecutive days, or heat index more than 115° F for any period of time.

The heat index values used in National Weather Service forecasts, warnings, and in heat index tables assume that the body is:

- 5' 7" tall.
- 147 pounds.
- Caucasian.
- At 98.6°.
- Clothed in long trousers and a short-sleeved shirt.
- In shade.
- Walking at a speed of 3.1 mph.
- In a breeze of 6 mph.
- Not dripping with sweat.

If any of these factors are different (heavier, working in the sun, etc.), the heat index will feel different to that individual. **Exposure to full sun can increase heat index values by up to 15° F.**



Find more information online:

The current heat index: http://nc-climate.ncsu.edu/map/?selvar=temp_wchi

NC State Climate Office discusses the history of the heat index and how it is calculated: <http://ncclimate.ncsu.edu/climateblog?id=81&h=38fe316e>

Plan Now for Fall Harvest

The summer heat and humidity often cause our gardens to languish but it doesn't need to be that way. July and August are an excellent time to plant vegetables and herbs for harvest through the fall and even in to the winter months.

Mid-July is a good time to reenergize your garden by planting a second round of warm season crops. You can plant bush beans, pole lima beans, tomatoes (especially if you lost plants to TSWV earlier in the season. Look for varieties that have a short "days to maturity" to ensure that you harvest before the first frost. Set out a couple of new basil plants to replace your early crop, which will be going to flower by now.

Let the old basil plants flower, basil flowers are a favorite of bees and other beneficial insects. Cool season root vegetables with a longer growing season, such as carrots and rutabagas, can be planted now too.

In early to mid August, consider planting a second crop of cucumbers. Later in the month, you can plant cauliflower, broccoli, collards, cabbage and turnips. These members of the mustard family will grow well past the last frost. I find they do best as transplants at this point in the season. Keep a close eye on them and stay one step ahead of caterpillars through regular scouting. The application of a product containing *Bt* (*Bacillus thuringiensis*) or spinosad at the first sign of caterpillar damage will protect your crop while minimizing impact to beneficial insects. Try planting a round of edible pod peas like sugar snaps or snow peas. While they don't appreciate the warm weather at the end of summer, they will produce well past the first frost in the fall.

Herbs such as dill, cilantro and parsley grow best during the cooler weather of fall and spring. Make several plantings two to three weeks apart for a consistent supply.

Remember to save a little space in the garden. Early September is an excellent time to plant cool season crops with a short growing season. Radishes, lettuce and spinach will be ready to harvest within a month or two of sowing. Harvest lettuce and spinach as "cut and come again" crops to harvest earlier and extend your harvest window. Put out onion sets and garlic cloves in September or October for harvest next spring. With a little bit of planning, you can harvest vegetables out of your garden every month of the year in Onslow County!

FIND US IN PERSON OR ONLINE

Onslow County Master Gardener Volunteer Plant Clinic

Don't forget that you can bring your gardening questions to the Onslow County Master Gardener Volunteers during the growing season. The Master Gardeners staff the Plant Clinic from Monday through Friday from 9-12 and 1-4. The Plant Clinic is located at 4024 Richlands Highway. You can call us at 910.455.5873. Master Gardeners are also available at the Onslow County Farmers' Market on Saturday from 8:30 until 1:30. Come by and see us.

Find us on Facebook

You can also find us on Facebook at Gardening in Onslow County. See pictures of the pests and diseases that I'm seeing now, get reminders about upcoming classes, see the progress we are making in the Discovery Gardens and post your own pictures and questions.

www.facebook.com/gardeninginonslowcounty

Choosing Plants for Your Pond

Dr. Diana Rashash

Do you have a pond that you manage for fish or just to add ornamental value to your property? If so, you want to think carefully about what plants grow in and around your pond. There are some very good plants to choose for ponds, as well as some not so good plants. In the “good” category are those that will help stabilize the soil, reduce wave action, provide shelter for juvenile fish, utilize nutrients, and not try to take over the world. Plants that fit these criteria include pickerelweed (*Pontederia cordata*), Joe-Pye weed (*Eupatorium* spp.), and various rushes and sedges.

Planting grass all the way to the pond’s edge is not recommended. Mowing can be difficult and the clippings add nutrients to the pond. Grass also doesn’t reduce wave action, which can result in slumping or undercutting along the water’s edge.

There are numerous plants that you don’t want in your pond, which leads to the list of aquatic invasive weeds that people have called about in the past two months. If you think you have one of these weeds, proper identification is extremely important prior to doing any kind of treatment.

Recent weed calls for southeastern NC ponds:

- Parrotfeather: spreads by fragmentation
<http://www.nps.gov/plants/alien/pubs/midatantic/myaq.htm>
- Alligatorweed: spreads by fragmentation, can also grow on banks, yards, and fields. When cleaning out ditches, care must be taken to not transport this weed along with the soil.
<http://www.weedscience.ncsu.edu/aquaticweeds/facts/apfs004-99.pdf>
- Duckweed: tiny 1/8” plants
<http://aquaplant.tamu.edu/plant-identification/alphabetical-index/common-duckweed/>

- Pondweed: native, several species present, seeds and vegetation provide food for aquatic animals, can become too thick and impede fishing.

<http://www.ecy.wa.gov/programs/wq/plants/plantid2/descriptions/potpus.html>

- Pennywort/Water pennywort: grows along pond shallows and forms floating mats. It also grows in moist areas and yards. Several species of *Hydrocotyle* exist here; some have a red spot at the very center where the stem attaches, while others have a white center. The leaves are actually edible.

<http://aquaplant.tamu.edu/plant-identification/alphabetical-index/water-pennywort/>

- Cattails: two species of *Typha* are fairly common here, the common cattail (*T. latifolia*) and the narrow-leaf cattail (*T. augustifolia*). Moderate stands can provide valuable habitat, but the plant can become highly invasive. The plants have been used as a food source by natives.

<http://www.ecy.wa.gov/programs/wq/plants/native/cattail.html>

<http://aquaplant.tamu.edu/plant-identification/alphabetical-index/cattail/>

- Planktonic algae: many species are good fish food. Fish production often calls for adding lime to raise the pH above 6.0 or fertilizing the pond to “increase productivity”. In other words, make the pond greener by promoting algal growth. If your pond has too much algae, there are treatment methods. Copper sulfate is typically used; however, the copper is much more toxic to fish if the pH and alkalinity of the water are low.

<http://aquaplant.tamu.edu/management-options/planktonic-algae/>

If you have an aquatic weed question or problem, photograph the weed and email it to:

diana_rashash@ncsu.edu



Mulch Makes Gardens Better

Lisa Rayburn

Mulch is a marvelous addition to your flower and vegetable beds. Gardeners rely on mulch to suppress weeds and make garden beds look tidy. However mulch has many additional benefits, including conserving moisture, keeping soil cooler, and reducing plant diseases. Mulch builds better soil over time – adding organic matter, reducing compaction, and preventing erosion. The right mulch provides all these benefits while adding beauty to the garden.

There are many types of mulch available – common options in our area include pine straw, pine bark and hardwood bark. Pine straw is a popular mulch in the south. Pine straw is easy to transport, attractive, and stays in place pretty well. Although many people worry that pine straw will make their soil acidic, it has little effect on soil pH. Pine bark mulches come in different sizes from large nuggets to small chips. The drawback to pine bark nuggets is its tendency to float, so don't use it where water flows or ponds. Shredded hardwood mulches hold together well making them a good choice in wet or windy locations.

Mulch can be applied any time of the year but the best time to mulch is late spring after the soil has warmed. Applying mulch in early spring will delay soil warming and possibly plant growth.

Aim for three to four inches of organic mulch around trees and shrubs – too much mulch can reduce the amount of water reaching the soil underneath. If mulch depths are adequate but mulch looks weathered, old mulch can be raked to loosen the surface and freshen the appearance.

Try to mulch evenly over the entire root system of your plant. For trees and shrubs, this means out to the edge of the tree canopy. Keep mulch away from the trunk of your trees and shrubs to prevent insect and disease problems. In landscape beds, the entire bed should be mulched evenly.

Two to three inches of mulch will suppress weeds in most vegetable gardens. Shredded leaves, clean straw, compost, and shredded bark are all good mulch options for vegetable gardens.

Avoid the use of inorganic mulches such as rubber shreds, rock and brick chips except in very targeted areas (such as around succulent plants). These mulches hold heat and do not add organic matter to the soil. Over time, leaves and debris falling on the surface of these mulches will break down and provide an area for weed seedlings to take hold. Also resist the urge to use weed barrier fabrics below your mulch. Over time, weeds germinate above the barrier and persistent weeds like nutsedge will simply push up through the barrier. Long term, barriers prevent mulch from being incorporated in to the soil below as organic matter. Building soil organic matter is the best way to improve the moisture and nutrient holding capacity of your soil.

CONTACT US

If you have questions about lawn, landscape or garden problems, contact your local Cooperative Extension office. In Onslow County call 455.5873, Mon – Fri, 8 am and 5 pm, or visit us online anytime at <http://onslow.ces.ncsu.edu>. While you are there, you can post your questions to be answered by email using the 'Ask an Expert' widget (in the upper left hand corner)



Japanese Beetles

Japanese beetles are aggregating on roses, grape vines, strawberries and other plants in the landscape. While Japanese beetles are alarming when they congregate and their feeding damage may be unattractive, many plants are not significantly affected by Japanese beetles.

If you do have Japanese beetles, you can control them in smaller plantings by handpicking. Japanese beetles aggregate together and move slowly in the cooler temperatures of morning. Shake the plant to knock beetles in to a bucket of soapy water or handpick them. Without beetles already on the plant, it is less likely that beetles will aggregate there later in the day. Particularly susceptible plants can be protected with row covers, cheesecloth or other fine mesh.

Japanese beetle traps are not a particularly effective form of control. Traps will catch some of the beetles in the area but not enough to significantly reduce damage to garden plants. Traps are much more effective at attracting Japanese beetles than in trapping them so make sure any traps you do use are placed as far away from desirable plants as possible. Beetles must be removed from the traps every one to two days to prevent the release of ammonia that will repel other beetles from entering the trap.

If insecticides are desired to protect plants in the landscape, there are a number of products available. Many of the newer lawn and garden multi-insect products containing one of the

pyrethrins are effective against Japanese beetles. Carbaryl, the active ingredient in Sevin, is also effective. Spinosad and neem based products are less effective, but may be used by people looking for a softer approach to insect control.

When using pesticides, read and follow all label directions. Apply pesticides late in the afternoon to limit the exposure of bees and other pollinators.



Upcoming Classes and Events

These classes are free and open to the public. Call the number listed below to reserve your space at these classes.

Fall Vegetable Gardening

July 31, 5:30 pm
Swansboro Parks and Recreation
830 Main Street Extension
910.326.2600

Fall Vegetable Gardening

August 1, 1:00 pm
Main Base Library, Camp Lejeune
Corner of Holcomb Blvd and Birch St
910.451.5724 to register

Fall Vegetable Gardening

August 2, 10 am
Jacksonville Parks and Recreation
100 Recreation Land
910.938.5312 to register

Saving Your Own Seed

August 21, 5:30 pm
Swansboro Parks and Recreation
830 Main Street Extension
910.326.2600

Tip and Tasks

Remember to water according to plant needs. Vegetables and newly established plants require more frequent watering than established lawns and plants. Sandy soil requires more frequent watering than heavier soils. Most plants grow best with about 1 inch of water per week. Install a rain gauge so you can track how much rainfall you get.

Mulch plants to conserve moisture, inhibit weeds and reduce disease.

Drip irrigation and soaker hoses deliver water to the root zone without wetting leaves. Moisture on leaves can contribute to disease development. If you must use sprinklers, water early in the day so leaves dry quickly.

Calibrate your sprinklers. Use a couple of straight-sided containers such as coffee cans to measure just how much water you are putting out. Some of my sprinklers will apply 1" of water in 30 minutes while others only apply ¼ inch over 4 hours! It depends on the sprinkler, your water pressure and the amount of area being watered. For lawns, aim for 1 inch of water per week on heavier soils, ½ inch of water twice a week on sandy soils.

Provide appropriate support for fruit and vegetable plants such as tomatoes. Trellises and staking will reduce disease and make maintenance easier.

Harvest fruits and vegetables as they ripen. Remove overripe, damaged or diseased fruits immediately to help control diseases and insects.

Watch for insects and diseases. If you find an insect or disease, have it identified by your Extension agent and get recommendations for control.

Mow lawns regularly and at the correct height to promote dense turf and reduce weeds. Centipede, bermuda and zoysia should be mowed to 1 inch, while St. Augustine should be mowed at 3 inches.

Deadheading promotes new blossoms for many annuals and perennials.

Remove weeds before they set seed.

RECIPE CORNER

Adapted from allrecipes.com

Chief's Baked Eggplant

One of my Master Gardener Volunteers shared this recipe with me and it is wonderful.

Ingredients:

1-2 Eggplants (about ¾ of a pound)
¼ cup mayo or salad dressing
1/3 cup dry bread crumbs
2 tablespoons Parmesan cheese
¼ teaspoon salt
¼ teaspoon pepper
¼ cup finely diced onions
1/8 teaspoon dried basil

Preheat the oven to 425° and use oil or cooking spray to grease a baking sheet. Mix mayo and onions in a bowl and set aside. Mix all other dry ingredients together - bread crumbs, parmesan cheese, basil, salt, and pepper.

Slice unpeeled eggplant on slight angle (about @ 45 degrees) to about ¾" thick slices. Coat with mayo mixture then bread crumb mixture and place on greased baking sheet. Bake for 12 minutes, flip over and continue cooking for another 8-10 minutes.

This recipe is great as a side dish with pasta and a chunky tomato sauce.

Summer Ratatouille

Ratatouille is a great way to use up summer's bountiful haul of squash, eggplant and peppers. Use this recipe as a starting point and then improvise. If you have more of one vegetable and less of another, that's fine. You can substitute Japanese eggplant for the Italian eggplant, use 3 or 4 to adjust for their smaller size. If you don't have roma tomatoes, remove the seeds and gel from regular slicing tomatoes and use those instead. You can also cheat and toss all of the vegetables in a little olive oil and roast them on a large sheet pan or two at 350° if you don't want to supervise the skillet. Just turn your vegetables several times during roasting. The resulting vegetables won't be as moist but they will be tasty.

Ingredients

Makes 8 servings

- 2 onions, sliced thinly
- 3 cloves garlic, minced
- 1 medium Italian eggplant, cubed
- 2 zucchini, cubed
- 2 medium yellow squash, cubed
- 2 green bell peppers, seeded and cubed
- 1 yellow bell pepper, seeded and cubed
- 1 red bell pepper, seeded and cubed
- 4 roma tomatoes, chopped
- ½ cup olive oil
- 1 bay leaf
- 2 tablespoons fresh parsley, chopped
- 4 sprigs fresh thyme

1. Heat a couple of tablespoons of oil in a large pot over medium low heat. Add the onions and garlic and cook until soft.
2. In a large skillet, heat 1-2 tablespoons of oil and sauté the zucchini in batches until slightly browned on all sides. Add the zucchini to the pot with the onions.
3. Continue to sauté the remaining vegetables one batch at a time, adding a little olive oil to the skillet each time. Add each vegetable to the pot once it has been sautéed.
4. Season the vegetables with salt and pepper. Add the bay leaf and thyme and cover the pot. Cook over medium heat for 15 to 20 minutes.
5. Remove the bay leaf, adjust seasoning to taste and serve.



A Little Something About Soil and Soil Evaluations

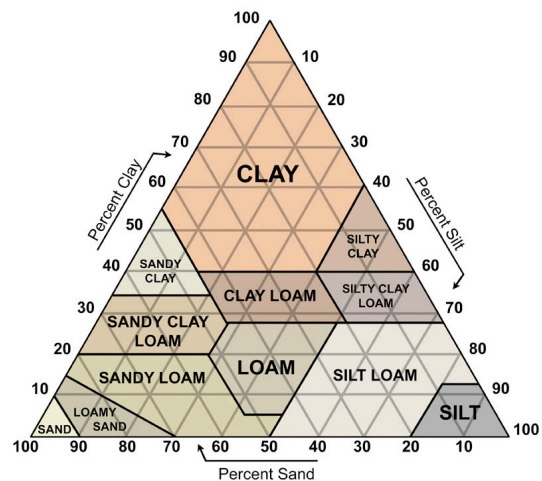
What do Environmental Health (EH) specialists do when they perform a soil evaluation? What makes it a “good” soil or a “bad” soil? Here is a brief introduction to try to provide some answers.

First, many people still request a “perc test” for a new septic system. This test has not been done in NC for roughly 30 years. Instead, the soil evaluation is performed. Soil scientists tend to use “suitable” and “unsuitable”, rather than “good” or “bad”. A heavy clay soil is great if you are putting in a pond, but not so good for a garden or septic system.

When an EH specialist conducts a soil evaluation. An auger is used to bore a hole up to 48” deep. The extracted soil is placed on t

the ground surface, where both the soil texture and the soil color are evaluated. Quite simply, soil texture is the relative proportion of sand, silt, and clay in the soil. As shown in the figure, there are 12 textural classes.

Sand, silt, and clay are defined by particle size. Sand is the largest (.05-2.0 mm), next is silt (.05-.002 mm), and clay is the smallest (less than .002 mm). Loam is the combination of sand, silt, and clay such that they feel to be of equal proportion.



EH specialists have defined methods of determining soil texture in the field. With soil color, they are looking at *value*, *chroma*, and *redoximorphic features*. *Value* can be thought of as the soil's lightness, from dark/black (low value) to light/white (high value). *Chroma* is the color purity or saturation, from washed out/pastel (low chroma) to vivid/intense (high chroma). *Redoximorphic features* are a soil property associated with prolonged wetness, which results from the reduction and oxidation of iron and manganese in the soil.

This process can remove or relocate these minerals in the soil, causing the formation of gray soils. (native soil particle color) or mottles (vivid spots of iron red surrounded by gray). Munsell color books are often used during these evaluations. This information lets the EH specialist determine the depth to the limiting soil wetness condition.

The soil texture and the depth to wetness are used to determine both the size of the septic system drainfield and the depth at which it can be placed. For example, a clay soil would require a larger area than a loam or sandy loam, since the clay can't accept water as quickly. A soil that has three or four feet of depth before reaching soil wetness conditions is easy to place drainfield trenches, compared to a soil with wetness occurring at 14-inches (which can result in a mound drainfield).

If you are considering purchasing a property, the publication *Investigate Before You Invest* (<http://www.soil.ncsu.edu/publications/Soilfacts/AG-439-12/AG-439-12.pdf>) may be very helpful. You can also request a copy of a site's septic system permit, to see what type of septic system is either present or designed for both the initial system and the repair area. Often, the system for the repair area is much more expensive to install due to limiting soil conditions.

If you have any questions, feel free to contact me:

Diana Rashash, PhD, EI Area Specialized Agent – Natural Resources
diana_rashash@ncsu.edu

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NORTH CAROLINACOOPERATIVE EXTENSION SERVICE
NORTH CAROLINA STATE UNIVERSITY
ONSLow COUNTY CENTER
4024 RICHLANDS HIGHWAY
JACKSONVILLE, NC 28540

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