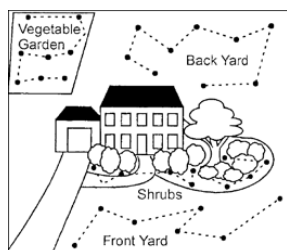


NC STATE**EXTENSION**

Master Gardener | Johnston County

The Gardener's Dirt Newsletter

July 2018



Feature Article

Fertilizers and Amendments - what role do they play?

By Beverly Futrell, Extension Master Gardener Volunteer Intern

Growing plants, trees and shrubs can be very rewarding when you are successful and very stressful when not. Whether you are growing in a landscape, growing fruit and nut trees or vegetables you need to start with a well-developed plan. Most of us wouldn't start out on a journey to, say California without a plan. We would use a well-researched roadmap to guide our way. We would plan stops for food and rest along the journey to increase the likelihood of a successful trip. The same applies to growing. You could start out by selecting some plants you like, plant them in your yard, add a common fertilizer, water and wait to see what happens. And, you might have some success, or not. But if you start out with a plan you are much more likely to be successful and have beautiful, healthy plants growing larger and producing greater yields.

The first step always is to select your site, the next most valuable thing you can do is get a soil test. It is a soil test which will help you prepare for success by helping to determine what fertilizers and amendments are needed for your trees and plants. Why invest your time, energy and hard-earned money if you are going to just "wing-it"?! And, soil tests are free most of the year, generally April through November in North Carolina. From Thanksgiving through March, peak preparation season for large growers, samples are \$4 each; as well samples can take longer during this period so keep that in mind and start early. You can obtain full details about how to prepare a soil test, why it is used, and where to submit it at the following website; or call your local agriculture extension office -

www.ncagr.gov/agronomi/sthome.htm. (Note: sample boxes needed for the soil test must be obtained from your local extension). You can also find links

to sample forms, methodology and recent turn-around times for the test in the above site and those linked below.

Now, let's break it all down a bit with some examples. This growing season, I know I wanted to plant Azaleas and Rhododendrons. I had not had a soil test done since purchasing the property and there were no Azaleas or Rhododendrons in the current landscape. Since these plants need to be in well-draining, humus-rich, moist, and acidic soil (pH 4.7-5.3); I needed some help - I needed science to tell me what to do to my soil. Back to the site plan ... for most of us, our yards are multi-purpose and we may have different plans for different areas. When taking soil samples, it is necessary to treat each one of these zones as a separate test. The sample form will ask what you plan to plant in the zone the sample was taken from, for instance Azaleas and Rhododendrons, or vegetables, shrubs, turf grass, etc. As the nutrients needed for each are specific, the test will help determine what is missing; or in some cases that there is an abundance. If you are to be really successful it is good to amend your soil with these fertilizers and the addition of compost. See examples of site plans, submission form and report.

Form AG-13 (September, 2004)

LAWN AND GARDEN SOIL SAMPLE INFORMATION- NC SOIL ONLY

NCDA&CS Agronomic Division Soil Testing Section
Mailing Address: 1040 Mail Service Ctr. Raleigh, NC 27659-1040
Physical Address (UPS/FedEx): 4300 Reedy Creek Rd. Raleigh, NC 27607
Phone: (919) 733-2655 Website: www.ncagr.gov/agronomi

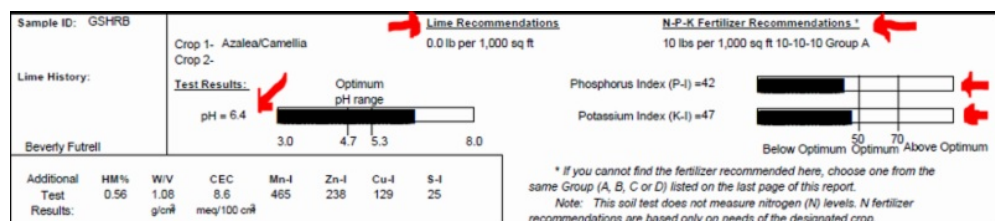
For laboratory results, go to www.ncagr.gov/agronomi/pals

SAMPLE INFORMATION		PAYMENT	CLIENT INFORMATION (PLEASE PRINT LEGIBLY)			OTHER RECIPIENT/SERVICE PROVIDER		
SAMPLE DATE		FEE TOTAL	LAST NAME FIRST NAME			LAST NAME FIRST NAME		
NC COUNTY (WHERE COLLECTED)		Check preferred: payable to NCDA&CS Please NO CASH Reminders: Use NCDA&CS sample boxes only. Fill box with soil to red line. Bags of any type not accepted. Acquire boxes at our lab or NC Cooperative Extension office.	ADDRESS			ADDRESS		
NUMBER OF SAMPLES			CITY	STATE	ZIP	CITY	STATE	ZIP
			E-MAIL ADDRESS (needed for report notification)			E-MAIL ADDRESS		
			PHONE (best contact number)		PALS # (if known)	PHONE		PALS # (if known)

*By submitting this form to the NCDA&CS Agronomic Division, I attest that the accompanying samples were collected in North Carolina.

LAB NUMBER (LEAVE BLANK - LAB USE ONLY)	YOUR SAMPLE IDENTIFICATION (maximum of 5 characters- same as box)	LIME APPLIED WITHIN PAST 12 MONTHS lb / 1000 sq ft	LAWN / GARDEN PLANTING CODE (Please see page 2)	Quick Tips
				<ul style="list-style-type: none">Please use only the planting codes on page 2.A bag of lime weighs 40 lb. If lime was applied over one year ago, leave the lime information blank.

A separate report will be provided for each zone submitted. Below are the recommendations for my sight.



Since we already said the optimal pH for these plants is 4.7 to 5.3 and my PH is 6.4, it is still with range on the chart so therefore, there are no lime recommendations to increase the acidity of my soil. However, because the soil was low in phosphorous and potassium, there is a recommendation for fertilizer as seen on the right - 10 lbs. per 1,000 sq. ft. of 10-10-10 Group A. When fertilizing is important to time the fertilizer application to coincide with your plant's growth cycle and recommendations (these can be found in the

link - A Homeowner's Guide to Fertilizer, provided below). Now, it's really that simple. So, plan and take those samples; see what is needed for success and good luck gardening!

<https://content.ces.ncsu.edu/home-vegetable-gardening-a-quick-reference-guide>

<https://content.ces.ncsu.edu/a-gardeners-guide-to-soil-testing>

<http://www.ncagr.gov/agronomi/pdffiles/stnote4.pdf> (Note 4: Fertilization of Lawns, Gardens and Ornamentals)

<http://www.ncagr.gov/agronomi/pdffiles/sfn8.pdf> (A Homeowner's Guide to Fertilizer)

<http://www.ncagr.gov/agronomi/sthome.htm> (Agronomic Services - Soil Testing Site)

<http://www.ncagr.gov/agronomi/pdffiles/ustr.pdf> (Understanding the Soil Report)

<http://www.ncagr.gov/agronomi/pdffiles/usoilHG.pdf> (Understanding the Soil Report - Lime, Fertilizer -

Group A, B, C & D equivalent fertilizers)

Table 1. Groups of equivalent fertilizers that supply 1 lb of N per 1,000 sq ft *

Group A: low P-I + low K-I		Group B: high P-I + low K-I		Group C: low P-I + high K-I		Group D: N only	
5-10-10	@ 20 lb	5-10-5	@ 20 lb	8-0-24	@ 12 lb	15-0-0	@ 7 lb
3-9-9	@ 30 lb	18-46-0	@ 6 lb	15-0-14	@ 7 lb	21-0-0	@ 5 lb
10-10-10	@ 10 lb	18-24-10	@ 6 lb	6-6-18	@ 18 lb	16-0-0	@ 6 lb
11-15-11	@ 10 lb	9-13-7	@ 11 lb	5-5-15	@ 20 lb	28-0-4	@ 4 lb
8-10-8	@ 12 lb	9-17-8	@ 11 lb	10-0-14	@ 10 lb	12-6-6	@ 8 lb

* Since these rates supply 1 lb N per 1,000 sq ft, use half the rate if centipede is the grass type.



Photo Courtesy of Mark Weathington JCRA, NCSU

Feature Plant

Crown Jewel Gardenia

Gardenia jasminoides 'Crown Jewel'

(Grown and recommended by Johnston County Nurserymen)

By Marshall Warren, County Extension Horticulture Agent

This dwarf gardenia is compact, cold hardy, and gorgeous.

'Crown Jewel' gardenia is the product of a formal plant breeding project out of Siler City, NC. It combines the best traits from its parents, 'Kleim's Hardy' and 'Chuck Hayes.' The hybrid has the 'Kleim's Hardy' dwarf size and prolific flowering, and the cold hardiness and double bloom of 'Chuck Hayes.'

'Crown Jewel' gardenia has attractive, dark green, evergreen foliage on a plant that will grow only 2-3 feet in height and up to 5 feet in width. It is particularly noted for its dwarf spreading to prostrate form, deer resistance, heavy bloom of intensely fragrant double white summer flowers (to 3" diameter) produced over an extended period during the summer growing season, and excellent winter hardiness to USDA Zone 6 with protection. Flowers appear in early to mid-June. Blooms appear on both old and new wood. Light pruning after flowers fade may encourage some additional

bloom. Use 'Crown Jewel' as a low hedge, foundation plant, or in a group planting.

'Crown Jewel' prefers well drained, moist soil and full sun to partial shade (a bit of afternoon shade is great) and good air circulation to minimize pest infestations. Shelter from cold winter winds helps to prevent tip dieback at the colder edge of the plants' range. Fertilize in early spring-midsummer and use a slow release, non-burning fertilizer for acid loving plants.



Photo Courtesy
Cassidy Hobbs

Ask an Expert

Yo' Momma Probably Taught You Wrong

By Cassidy Hobbs, Johnston County FCS Agent

Foodborne Botulism is a rare, but life-threatening condition resulting most commonly from improperly home-canned foods. *Clostridium botulinum* bacteria produce toxins that can be present in foods. *Clostridium botulinum* toxins create heat-stable spores in oxygen-free environments. In order to starve spoilage microorganisms (yeasts, molds, etc.) from the ability to grow, oxygen is driven out of the jars during processing, creating a desired "popping" sound of lids sealing to jars. When ingested, *Clostridium botulinum* neurotoxins attack the body's central nervous system resulting in drooping of the face and eyelids, difficulty swallowing, and in severe cases, victims face the inability to breathe due to paralysis of the diaphragm.

So how do you preserve food ensuring safety? Follow a tested recipe! Tested recipe resources include the book "So Easy to Preserve", the 100th edition of the Ball Blue Book, and the National Center for Home Food Preservation's website. Tested recipes have been researched to ensure safety by examining the pH, water availability, and processing times. *Clostridium botulinum* grows at a pH at or above 4.6. For that reason, high-acid foods can be canned using a boiling water bath canner to reach a temperature of 212 degrees Fahrenheit. Low-acid foods, however, **MUST** be pressure canned. When foods lack the proper acidity to prohibit *Clostridium botulinum* from growing, they must be pressure canned in order to reach a temperature of 240 degrees Fahrenheit. When following a tested recipe, be sure not to alter the recipe in any way, including the processing time. Processing times are studied to determine how long it takes for the oxygen to be driven from the jars to create a seal. Altering the sugar or salt content of a recipe can allow pathogens to grow. When water is not bound by salt or sugar, it is available for microorganisms to use and grow.

Drying, freezing, and fermenting foods from your garden are also excellent ways to preserve! It isn't too late to sign up for food preservation workshops. See "Upcoming Events" below.



Photo Courtesy Pixabay

Hanging Baskets

By Joanne King, Extension Master Gardener Volunteer

How could there be anything bad about hanging baskets? I asked my husband what he thought. He said that they leave a mess on the deck. He is referring to the petals and leaves that drop as the blooms fade or when it rains. Aside from that, hanging baskets are a great way to add vibrant color and greenery to your deck or patio. It's instant beauty when you purchase one. Their beauty can be seen at eye level, or they can be placed in plant stands.

Hanging baskets can have several varieties of plants in one display, usually a plant that stands tall, one that hangs and something that fills in. They can be just one type of plant for a burst of color. With the right plant choice, you will see hummingbirds zooming in for a quick snack.

Most hanging baskets rely on sun-loving, heat-resistant plants. Hanging baskets for shady areas, like ferns and impatiens, require special care to keep them protected from the sun and the heat of summer.

Be prepared to water baskets frequently, just about daily in the summer heat. Let the water drain out, so the roots are not sitting in water. You might want to repot a garden center basket. They often have too many plants and you don't know the condition of the soil when purchased. A good mix is potting soil with vermiculite, perlite or soil conditioner which aid in the soil aeration and water retention.

You can move the baskets to a shady area during periods of extreme heat, if you wish, or to get them out of drying wind. That's another good thing about baskets. They can be moved. You can carry them to the hose. When you go on vacation, you can move them to a friend's house.

Some liquid fertilizer solution every few weeks will keep the leaves green and the flowers blooming. Cut the flowers back every so often to encourage new buds and to keep the flowers from getting too leggy. Don't be afraid to cut stems all the way down to a main stem, for a full-looking display. With the right care and plant choices, the good things about hanging baskets will outweigh the bad. For more info, check out these links.

<https://content.ces.ncsu.edu/extension-gardener-handbook/18-plants-grown-in-containers>

http://metromastergardeners.org/files/tenminuteu/2014_Hanging_Baskets.pdf



Photo Courtesy Pixabay

Monthly Gardening Tasks

July Gardening Tasks

GENERAL IDEAS

- Water deeply but infrequently, this will encourage deep rooting of

plants for better drought resistance.

- Control fungal diseases which flourish in hot and humid weather by keeping irrigation water off foliage. The best time to water is early morning. This allows the sun to dry water from foliage. Watering in early evening creates damp foliage all night which encourages the development of fungal diseases.

Help reduce the mosquito population by emptying any containers with standing water. Mosquito larva can grow in shallow water, like plant saucers that do not dry completely.

LAWN CARE

- When should you water your lawn? When the grass blades are just starting to curl and your footprints remain on the lawn when you walk on it. Watering too often encourages a lawn with a shallow root system that cannot handle drought well. Apply an inch of water, in the early morning. Set your timer for 4 am if you can
- Grasses vary in their needs. Check out the Lawn Maintenance Calendar for your grass and learn how best to care for it, month by month...

Bermuda - <http://www.turffiles.ncsu.edu/turfgrasses/bermudagrass/lawn-maintenance>

Centipede- <http://www.turffiles.ncsu.edu/turfgrasses/centipedegrass/lawn-maintenance>

Zoysiagrass -<http://www.turffiles.ncsu.edu/turfgrasses/zoysiagrass/lawn-maintenance>

St. Augustinegrass - <http://www.turffiles.ncsu.edu/turfgrasses/st-augustinegrass/lawn-maintenance>

Tall Fescue - <http://www.turffiles.ncsu.edu/turfgrasses/tall-fescue/lawn-maintenance>

- Keep fescue mowed at a height of 3 - 3 1/2 inches to help it survive hot, dry periods. It is a cool season grass that slows down in the summer. If it is cut too short, the tender roots will be exposed to extreme heat which will certainly damage, if not kill them. It is also difficult for fescue to recover from cutting too short as it is not actively growing at this time.
- Repair Warm-Season Lawns: Bermuda, Zoysia, and Centipede are growing strong by now, making it easy to see spots that are weak or weedy. Pull weeds and patch bare spots if you haven't already.
- Established fescue lawns naturally go semi-dormant in the heat of July. Established Fescue can survive up to three weeks without water, but will need a drink if it doesn't rain by then! Water only when grass shows sign of wilt (footprints show when grass is walked on). Fescue planted last fall will need watering every week.

TREES, SHRUBS AND ORNAMENTALS

- When you visit your roses, clip off leaves that show early evidence of blackspot - a common fungal disease that causes black spots on leaves. Put the spotted leaves in the garbage (not in the compost pile.)
- When gathering cut flowers to bring indoors, cut stems early in the

day. Bring them indoors and recut the ends while they are submerged in a sink of water.

- Don't use Japanese beetle traps. The pheromones in the traps often attract beetles that would not otherwise visit the area. To control a particularly pesky group of beetles, go hunting for them in early morning and shake them into a bowl of soapy water to get rid of them.
- Keep potted plants watered! Plants in pots outside may need daily watering in the heat of summer.
- Pinch out the tips of garden mums to encourage lower, compact plants with many flowers.
- Start stem cuttings of geraniums and leaf cuttings of succulents to be potted for use as house plants this winter.
- Propagate shrubs by rooting cuttings. Semi-hardwood cuttings of Azalea, Camellia, and Holly can be taken this month. The wood should be hardened enough that the stem breaks when bent.
<http://www.ces.ncsu.edu/depts/hort/hil/hil-8702.html>
- Prune spent crape myrtle blossoms to prolong the flowering period.
- Sooty Mold on the crape myrtles will make the leaves appear dark and sooty or almost uniformly charcoal gray. Sooty mold grows on honeydew (the sticky leftovers) from aphids. Control the aphids, and the mold will wash off.
- Powdery Mildew makes leaves appear gray and powdery. It's a common problem which disfigures the foliage, but doesn't kill the tree.
- Hand-pick bagworms off evergreens. Pesticides are not effective once the caterpillars are safe in their bags.
- Remove vigorous upright sprouts growing from tree roots ("suckers"), or from the upper surfaces of tree branches ("water sprouts"). Pruning the sprouts out directs the tree's energy into desirable growth.
- Weed when it's easy. Weeds are easier to pull when the soil is moist, so wait until after a soaking rain or irrigate the area first. The roots of desirable plants can be injured by pulling large weeds nearby so pull those weeds in late afternoon or on cloudy days, and water the area afterward to help injured plants recover.
- Start seeds for cool-weather annuals indoors in July/August for fall planting. Try foxglove, pansy, alyssum, snapdragons, ornamental cabbage (kale), and primroses. Pansy seeds germinate well when stored in the refrigerator (not freezer) for 10-14 days before planting.

VEGETABLES & FRUITS

- Pinch out the tips of blackberry shoots when they reach about 4 feet tall. This helps form a tidier hedgerow for easy picking.
- Soon after tomatoes begin to set fruit, give them a boost of fertilizer to keep them vigorous and productive. Most of the new varieties are heavy producers if provided with good nutrition and adequate soil moisture.

LANDSCAPE IDEAS

- Deckscape: Play with colors, textures, and the placement of furniture on your deck or patio. Use container-grown plants, windsocks and sculptures to change or fine-tune your color scheme and overall feel.

- Think strategy. Now that deciduous trees and shrubs are in leaf, survey your landscape critically. Do you have too much? too little? are plants too low where screening is needed? So tall a view is blocked? Take photographs and make plans to add or move shrubs this fall. Don't plant it now, wait until fall.

WILDLIFE

- Put out a bird-bath. Keep it filled with fresh water. Change it once a week to minimize mosquitoes. Birds will pay you back by eating lots of insects!
- Think twice about squashing caterpillars; many turn into butterflies. Swallowtail caterpillars love parsley, so set out a few extra plants to share with them. A pan of moistened pebbles or sand will attract butterflies.



Photo Courtesy of Pixabay

Cool Connections

Helpful Links

[Read more»](#)



Photo Courtesy Cassidy Hobbs

Upcoming Events

Food Preservation and Canning Series

Johnston County Agriculture Center
2736 NC Hwy 210
Smithfield, NC

July 21, 2018- Jams, Jellies, and High Acid Foods

July 28th, 2018- Dehydrating and Freezing

August 11th, 2018- Fermentation

For more information for the July 21st class

<https://johnston.ces.ncsu.edu/family-and-consumer-sciences-2/available-programs/jams-and-high-acid-foods-preservation-workshop/>

Other Classes: <https://johnston.ces.ncsu.edu/2018/02/food-preservation-and-canning-series/>

or email Cassidy Hobbs for information cdhobbs3@ncsu.edu

For 4-H SUMMER FUN SCHEDULE, See link below.

To sign up in the 4-H system: <https://nc.4honline.com>

Upcoming Event for 2019

Birds, Bees, Butterflies & Growing Native Gardens Symposium



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For accommodations for persons with disabilities, contact Bryant Spivey at (919) 989-5380, no later than five business days before the event.

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