

Millipedes, Chiggers and Ticks! Oh my!

OK, this leaflet can only go so far. Let's just say that the critters listed here are among those with whom we share our world. They are not likely your favorite but you'll learn to accept them.

These critters are also among the subjects of numerous publications available through your Extension Service. Don't wait till you're at your wit's end; go ahead and give us a call



Chatham County Center
NC Cooperative Extension

45 South Street
P.O. Box 279
Pittsboro, NC 27312

Tel: 919.542.8202
Fax: 919.542.8246
Email: al_cooke@ncsu.edu
www.ces.ncsu.edu/chatham/

Chatham County Center
NC Cooperative Extension

On New Ground

AL COOKE
EXTENSION AGENT

What's Inside:

Working with Your Soil

Plants: What Can You Grow?

Saving All the Trees You Can

Millipedes, Chiggers and Ticks!



A new home may be the beginning of a big adventure. Whether you are moving into an existing house or seeing your property cleared and a building come “out of the ground,” eventually you will move in, get settled, and make further improvements such as landscaping and gardening.

You may have lived in this area all your life or you may have moved from another part of the world. If you are already a resident, perhaps you are acquainted with North Carolina Cooperative Extension; if not we would like to make your acquaintance. As a part of both North Carolina State University and your local Chatham County government, our role is to help you get the information you need in order to make your own decisions based on an established, researched knowledge base.

This leaflet is intended to address some of the concerns we have learned to expect of new residents. In many cases

we are only involved after problems have grown out of proportion. We hope that this information helps you make some informed decisions that will not have to be corrected afterwards. For instance, no matter how we feel about trees, there are some trees that can be hazardous to buildings and human habitat. It's cheaper and safer to recognize and remove those hazard trees before a house is in place.

But we're getting ahead of ourselves. Please consider the issues that follow. If you have questions, our staff includes agents with expertise in home gardening and landscaping, family and consumer issues, livestock and forage, sustainable agriculture, 4-H, and more. We don't always have the answer. But we often know where to look.

Visit us on the Internet at <http://www.ces.ncsu.edu/chatham/> or give us a call at 919 542 8202.

Call: 919.542.8202

Saving all the Trees You Can

(Continued from page 6)

- **Designate tree root areas and keep construction equipment away.** Most of the roots that trees depend on to absorb water and nutrients will be in the top foot of soil. They usually extend farther than the branches and often 2 to 3 times as far. Any damage to these roots compromises the tree's ability to support itself. Your minimum protection zone should extend at least as far as the branches; for more important trees, the protection zone should exceed the minimum. Construction personnel are seldom tree experts and may not understand your goals or methods; a physical barrier, fence, or even contract clauses may be used to insure protection.
- **Avoid grade changes that may damage tree roots.** Your soil surface may need to be regraded to direct water movement. Heavy rainfall that once soaked into the soil or was slowed in its movement by vegetation may now fall on rooftops and driveways. It has to be channeled carefully to prevent erosion. Lowering the grade can damage tree roots. Brining in fill to raise the grade may prevent tree roots from getting oxygen. For some slopes, terracing to accommodate trees may be an option.
- **Reasons that trees die years after construction include:** soil compaction from equipment driving through; one or more roots cut; excavation under the tree's canopy; trenching under trees to install utilities such as water, sewer, electricity, phone, TV; scarring or removal of bark; changing the original grade; landscape tillage and digging.

- **Some ways to prevent damage during construction:** keep equipment and materials away from protected trees. For situations where equipment must enter, such as along a drive near trees, put down several inches of coarse gravel or mulch over which vehicles may drive. If necessary to cut large roots near the trunk of a tree, remove the tree instead; specify that all utilities use the same trench, route trenches away from trees, or tunnel two feet below the surface to go under rather than cutting the roots. Use visual or physical barriers to insure that equipment operators stay away from trees. Once the construction nears completion and landscaping begins, maintain your tree protection zones. Excavation or backfill in the root zone can be fatal regardless of your best intentions.

Summary: Select desirable trees, remove weak or unhealthy trees; protect the trees you select. Consider consulting a certified arborist before construction begins to assist with these decisions. Avoid excavation or backfilling in tree root zones. Discuss all the details with your general contractor and sub-contractors before site work begins. In some cases steep penalties have been included in contracts to impress on contractors the value you place on the tree. And remember that the inconvenience to them may cost you more. Only you can determine how much that tree is worth!

If you would like more information about protecting trees during construction, contact us.

**Chatham County Center
NC Cooperative Extension**

What Can You Grow?

(Continued from page 5)

first mild freeze. A plant that can tolerate single digit temperatures in February may be seriously damaged in October by temperatures in the upper 20s if it is not acclimated.

It's not how hot it gets; it's how it gets hot.

Spring may start with temperatures in the 70s or higher in January; but freezing temperatures may return as late as April or even May. Many plants break dormancy after an adequate amount of winter chilling. Once that threshold has been reached, a warming trend signals the plant to start growth. Many fruiting species such as cherries or plums will bloom in February well before the last hard freeze removes all the fruits that were set.

What does it all mean? It simply means that plants that may have been your very favorite somewhere else do not want to live here and will not thank you for introducing them. And... there are some gardeners who are able to analyze their situations and do things that none of the rest of us can. We should never underestimate the realtor's maxim – location, location, location. Your location is not identical to the one served by the next driveway. You have the opportunity to learn what will work for you in your location. There are many plants that can be predicted to do well in our part of the world.

Call: 919.542.8202

Saving all the Trees You Can

- **Keeping some trees in good health may require sacrificing others.** When two or more trees grow too close together, they compete for the same resources. Thinning may lead to stronger, healthier trees without sacrificing a closed canopy. Nature seems to prefer a lot of trees producing a lot of seeds. These are not always strong, healthy trees and in some cases can present a hazard to people and structures.
- **Trees that interfere with construction may need to be removed.** Construction requires not only a place to put the building. It also requires underground trenching or tunneling for utilities, space for access by construction personnel, space for storing materials, space for mixing paint and mortar. Some of these activities are not compatible with maintaining strong, healthy trees. Trees whose roots are damaged during construction often die over the next several years. It is usually easier, cheaper, and safer to remove these trees before valuable structures are in place than after.
- **Protect selected trees by designating space for construction equipment and materials.** Construction personnel can park vehicles offsite and/or store all construction equipment and materials in designated locations. That means more time and energy for them in getting tools to and from the job; it may mean more time and cost for you.

(Continued on page 7)

Working With Your Soil

Your soil, what is it like?

Gardeners must be concerned with two types of soil properties: physical properties and chemical properties.

Physical: Much of the soil in Chatham County is heavy with high clay content. Low permeability makes clay slow to absorb water. Once it gets wet, it drains poorly and is slow to dry out. If the soil has been subjected to compaction from construction equipment or even regular foot traffic, it may be insufficiently aerated and plants may not thrive. The ability of the soil to absorb and hold water and air is included among its physical properties. Heavy clay soils may be very difficult to dig and work.

Chemical: If the soil has never been farmed or gardened (or even if it has), it may lack nutrients and may not readily yield nutrients to plants even when fertilizers are applied. This nutrient status is referred to as its chemical property. Native soils may be too acid for plants to thrive.

How can you improve the physical properties?

We improve the physical properties of heavy soils by increasing the size of pore space in the soil to

improve permeability and drainage. Pores are the spaces between grains of soil where water and air are held. Soils with small soil particles such as clay also have small pore spaces making them difficult to work, difficult to wet, and lacking in aeration. To increase pore size we need to increase the size and mix of soil particles.

Since we already have abundant small clay particles, we add material with larger particle size. Sand and clay may be mixed to make brick; but it is not practical to add enough sand to a clay soil to improve its physical properties. Peat moss is not used on clay soils, because it is also slow to absorb water and slow to dry out. Materials most effectively used include pine bark humus, composted leaves, and pea gravel (3/8" or smaller).

These materials must be dug or tilled in to make a good mix. Tillage may require heavy equipment. Remember that trees you hope to save may be permanently injured from having their roots tilled. It may be easier to remove live trees before gardens are in place than to remove dead ones after.

(Continued on page 4)

Working With Your Soil

(Continued from page 3)

It is generally not desirable for any “topsoil” or soil amendment to be placed on top of the existing soil without tilling it in. A uniform rooting medium is preferable to trying to grow plants in a thin layer of “topsoil.” It may be easier to till and work with the soil you have than to garden in a thin top-dressing. A topdressing deeper than four inches may also be sufficient to kill trees by limiting air available to their roots.

Creating gardens under established trees may require creation of small raised beds that allow plants adequate root room to get established while minimizing injury to tree roots.

How can you improve soil fertility?

The question we ask is not what kind of fertilizer a plant needs. We ask what the soil is able to supply and what we need to supplement. How do we know the nutrient status of our soil? The North Carolina Department of Agriculture provides soil analysis at no charge. But the analysis is no better than the quality of the soil sample you submit. For complete directions on how to take a sample, contact the Chatham County Center of North Carolina

Call: 919.542.8202

Cooperative Extension. Once you get a soil report it will tell you if you need lime, how much lime, and what kind of fertilizer. Lime may not be essential. Lime buffers soil acidity by raising pH, a measure of acidity or alkalinity. Application of lime can affect whether plant nutrients are available for plant use. To be most effective lime must be tilled into the soil. Otherwise it may take years for it to be effective in the plant root zone.

Your soil report will also suggest what kind of fertilizer will best supplement your soil’s natural fertility. When to apply that fertilizer will depend on what you plan to grow. Annual bedding plants are fertilized frequently throughout their growing season. Perennials may be fertilized the first year, perhaps no more. Vegetables are fertilized when they are planted and usually again several weeks later. Trees and shrubs are fertilized in the fall or winter during early years; later they may be fertilized only every two to four years. Lawns are fertilized on a schedule based on the specific type of grass.

For more information on fertilizer scheduling, taking a soil sample, or interpreting your soil analysis, contact us. 919 542 8202

Plants: What Can You Grow

Any geographic region has characteristics that affect the plants which will thrive there. Some of the characteristics of Chatham County, North Carolina include:

Long growing season and high humidity

Long growing seasons with high humidity may favor plant diseases. We combat these by selecting resistant plants and encouraging good air circulation. Long growing seasons may allow insects to have multiple generations per year in the south compared to one or two generations per year farther north. Plant selection and planting times are important parts of management strategies.

Summer nights are longer than those farther north.

Nighttime in the summer represents time when plants are burning energy that they built up with photosynthesis during the day. In the north, shorter nights and cooler nights means plants’ rates of spending energy (respiration) slows; in the south, longer nights and warmer nights means plants expend more energy. Plants adapted to long days of photosynthesis and short, cool nights may not do well in an environment of shorter days and warm nights. Bottom line? Some northern or mountain plants like spruce or fir usually do not perform well in our area.

It’s not how hot it gets; it’s how long it stays hot.

We know it gets hot in the north and may get every bit as hot

there as it does in the south. Differences occur in nighttime temperatures and the fact that it may get hot by late March or early April and continue to be hot for months. Plants may flower earlier, grow taller, and have weaker stems. They will probably need less fertilizer. Plants that may be grown in full sun in the north may benefit from some shade in the south (geraniums for instance). Likewise plants grown in some shade in Florida may thrive in more sun this far north.

Winters are mild and may be wet.

Without a protective snow cover, however, plants may suffer cold injury at temperatures much warmer than they could tolerate with a blanket of snow. Likewise, damp soil may be conducive to root-rotting fungi. Without good drainage, plants may rot in the ground.

It’s not how cold it gets; it’s how it gets cold.

Plants begin adapting themselves for winter in response to some environmental cue. It may be shortening days, cooler temperatures, or dryness. Plant responses to these cues include slower growth and in some cases leaf drop. Gardeners should not stimulate plants to continue growing into the fall (except for cool season plants). Avoid applying fertilizer or excess water. When plants are growing and fail to acclimate to the changing season, they may be seriously damaged by the

(Continued on page 6)

Chatham County Center
NC Cooperative Extension