UF UNIVERSITY of FLORIDA | IFAS EXTENSION

Highlights in Horticulture

Baker County

June 2012

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Dear Extension Friends,

Although it's starting to heat up, the weather has been nice for gardening and the questions have come pouring in lately! And since many of you are having the same problems, I thought it would be best to share those questions with you. If you have a question, please don't hesitate to ask! We are here to help!

Best Regards,

Alicia

Alicia R. Lamborn
Horticulture Extension Agent
Baker County Extension Service

Arboretum Visitor Information

Both individuals and groups are invited to visit the arboretum!

For larger groups, tour guides may be available to teach you about the different tree species, landscape uses, tree identification techniques, and/or conduct educational scavenger hunts.

No matter what the season, there is something to see in the arboretum—trees with interesting bark & buds, beautiful flowers and fruit, and colorful leaves in fall. We even have seasonal wildflowers, in addition to a variety of wildlife that come for a visit too!

Access may be permitted during regular business hours only, and visitors must sign in at the front office. Calling ahead is recommended to ensure availability. Schedule your visit by calling (904) 259-3520.

Not able to visit the arboretum in person? Visit our website! http://baker.ifas.ufl.edu

Just click on **Baker County Arboretum** in the left hand column to read more about the arboretum, see a site plan, and find information and photos for each tree species.

Troubleshooting Tomato Problems

Blossom-End Rot

Blossom-end rot is often (but not always) caused by a calcium (Ca) deficiency in the developing fruit and usually appears at the blossom end or side of the fruit but can also occur internally with no visible symptoms.

While this tends to be a common problem, it can be avoided through proper fertilization and good water management. Some conditions that may cause this disorder include low soil Ca, high nitrogen (N) rates, using ammoniacal sources of N, high concentrations of soluble potassium (K) and magnesium (Mg) in the soil, inadequate or excess soil moisture, root damage from nematodes and disease.

If you can do so without wetting the foliage, you may also try watering at night (or evening) since night is an important time of Ca uptake. Foliar applications and fruit sprays of Ca have not proven to reduce this disorder since very little Ca is taken up by the fruit, and can not be moved from leaves to fruit.

Cracking

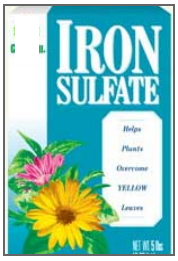
Cracking occurs when the tomato fruit expands faster than skin, which causes it to split. Often cracking starts at the stem end and progresses toward the blossom end and some varieties are more susceptible to cracking than others. To avoid this problem, select tolerant varieties, stick to a routine watering schedule to reduce extreme fluctuations in soil moisture, and try to maintain good foliage cover to reduce fluctuations in temperature.

For more information on disorders of tomato fruit, visit:

Source: Physiological, Nutritional, and Other Disorders of Tomato Fruit, by Stephen Olson, http://edis.ifas.ufl.edu/hs200

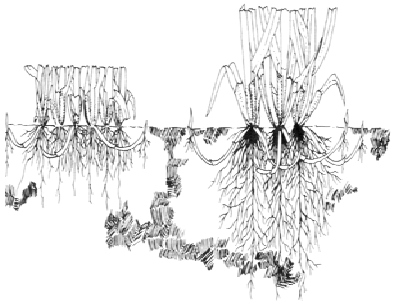
June Gardening Tips

If your azaleas, camellias, or gardenias need downsizing, prune them as soon as possible. The general rule is to prune before the 4th of July—after that they begin forming next season's flower buds. This means that the longer you wait, the more you will see a reduction in flowering come spring. If they don't need major pruning, just cut back shoots that are out of control along with any dead and/or declining portions.



If the "spring green" look of your lawn has started to fade, don't fertilize! Fertilizing with nitrogen during summer only pushes out excessive growth, making it more attractive to pests and diseases not to mention extra mowing! Instead, apply iron this month—it will turn the grass green, but without increasing growth. For acidic soil, use iron sulfate at one pound per 1000 square feet. For alkaline soil, use chelated iron at the rate recommended on the label. For liquid applications, use ferrous sulfate at 2 oz in 3-5 gallons of water per 1000 sq feet.

Improve the drought tolerance of your lawn—just by mowing it properly! Mowing lower than recommended, removes leaf tissue used for photosynthesis, leaving less energy to produce a dense, deep root system. A shallow rooted lawn is then less tolerant to dry conditions because it only has access to moisture within the top few inches of soil which quickly dries out after a rain event.



Bahia: 4 inches
Bermuda: 1.5 inches
Centipede: 2 inches
Zoysia: 2 inches
St. Augustinegrass: 4 in.
St. Augustine Dwarf: 2.5 inches

Need more gardening tips?
Be sure to check out the *North Florida Gardening Calendar* by UF specialist Sydney Park Brown, available at http://edis.ifas.ufl.edu/ep451 for monthly gardening tips.

Florida-Friendly Insecticide Use in the Garden

Choose to be Florida-Friendly in the garden by selecting insecticides that target specific insects, and save those broad spectrum products for only when absolutely necessary since they kill our good bugs as well as pests.

Bt: Nature's Way to Control Caterpillars

Bacillus thuringiensis (Bt) is a naturally occurring bacterium, commonly found in soils, that has the ability to infect and kill caterpillars. Because of this property, Bt has been developed as an insecticide, acting like a stomach poison and causing paralysis to the digestive system. Infected caterpillars stop eating and eventually die from starvation.

Compared to other commonly used insecticides, Bt products are nontoxic to people, pets, wildlife, and other organisms not closely related to caterpillars. Therefore, Bt products do not directly affect beneficial insects in the garden (i.e. pollinators) the way some other broad spectrum insecticides do (see below for a word on broad spectrum insecticides). Because of the high level of safety, Bt is used in organic gardening of food crops (as well as ornamental plants), and does not require a lapse between application and harvest of fruit/vegetables.

For control of leaf-feeding caterpillars look for Bt products containing the *kurstaki* strain. Examples include:
Dipel® Javelin® Thuricide® Worm Attack® Caterpillar Killer® Bactospeine® SOK-Bt®

Spinosad: Controls caterpillars, including armyworms, bean leafrollers, cabbage loopers, corn earworms, hornworms, pinworms and more. Also controls some beetles, thrips & stink bug nymphs.

Soaps & Oils:

Insecticidal soaps are made from the salts of fatty acids, which are in the fats and oils of animals and plants. Soaps act on contact and must be applied directly to the insect to be effective. They are effective against soft-bodied insects like aphids, some scales, psyllids, whiteflies, mealybugs, thrips, and spider mites. Hard-bodied insects (e.g., adult beetles or wasps) are not harmed.

Horticultural oils include dormant and summer oils which indicate the time of application rather than any particular type of oil. Oils typically act as a smothering agent for soft-bodied insects (e.g., aphids, scales, leafhopper nymphs, whiteflies) and mites that are thoroughly coated by the oil.

Note: Some plants may be sensitive to soaps & oils resulting in leaf burn, especially during hot weather. Always consult the label and apply to a small area of the plant to check for phytotoxicity. Commercial soaps are less likely to be phytotoxic.

Neem: Neem or neem oil is extracted from the seeds of the neem tree, a native of India. The neem tree supplies at least two compounds with insecticidal activity, and other unknown compounds with fungicidal activity. Some products provide 3-way protection against insects, mites and fungal infections and are safe for vegetable gardens.

Broad Spectrum Insecticides

Broad spectrum insecticides will kill good insects as well as pests, and should only be used when absolutely necessary.

Broad spectrum pesticide chemicals include:

- Pyrethrins
- Pyrethroids
- Carbaryl
- Malathion

Pyrethrins are concentrated compounds extracted from a daisy-like flower, grown in Kenya. When the flower is ground into a powder, the product is called a pyrethrum. Pyrethrum is the most widely used botanical insecticide in the United States. Synthetic insecticides that mimic the action of the pyrethrins are known as pyrethroids (e.g., bifenthrin, cyfluthrin, and permethrin).

Q: Are broad spectrum insecticides harmful to bees?

A: Malathion, Carbaryl (e.g. Sevin®) and pyrethroids are especially harmful to bees! If necessary, apply these products in late afternoon or early evening when bees & other pollinators are less active.

* The use of trade names is solely for the purpose of providing specific information. It is not a guarantee of warranty of the products names and does not signify they are approved to the exclusion of others of suitable comparison.

Squiggly Marks on Leaves are Sign of Leafminers

If you have a vegetable garden then you've likely noticed a leaf here or there with white, squiggly lines on it. Vegetable crops, flower crops, fruit crops, landscape plants and even weeds are hosts to insects commonly referred to as leafminers. Adult females (usually a fly) puncture the leaf while laying eggs, which can result in a stippled appearance. However, it is the mining of leaves by the larvae which causes the most damage. Larvae feed between the upper and lower leaf surfaces, leaving an irregular pattern of tunnels that appear white or light green and become larger in size as the larva matures.

This squash leaf has been damaged by leafminers which feed between the upper and lower leaf surfaces, leaving an irregular pattern.

Although extensive mining can reduce plant growth, some crops such as tomato, are extremely resilient and capable of withstanding considerable leaf damage (up to three individual mines per leaf before yield is reduced). Even when found on other crops, damage is typically sparse making it almost purely cosmetic and nothing to be concerned over.

If however, you feel that the damage in your garden is more extensive and causing your plants harm, there are a few things you can do. First, avoid broad spectrum insecticides which kill a broad range of insects. Not all insects are harmful and in fact there are many helpful insects which keep the pests under control for us. In this case, tiny parasitic wasps attack the leafminer larvae and are quite effective at reducing populations unless they are eliminated by the use of broad spectrum insecticides. Instead, try using insecticidal soaps and horticultural oils to kill soft bodied pests such as aphids and mealybugs, and use *Bacillus thuringiensis* (Bt) to kill all types of caterpillars. These products target specific pests and won't harm beneficial insects.

Another management option is to purchase or make traps which can be placed in the garden. These traps capture adults by using adhesive applied to yellow cards or stakes. And since a variety of insect pests are attracted to the yellow color, these traps are great for monitoring and management of pests which get stuck to the card and die, never to reproduce again. A third option, although possibly unnecessary, is to press firmly over the large end of the mine, hence squashing the leafminer larvae inside. However, one thing to consider when using this method is that you also run the risk of squashing any natural enemies (the immature parasitic wasps) that may be preying on the leafminer inside the leaf. Removing the leaves is not recommended, as this removes valuable green leaf tissue used for photosynthesis and could result in even more dramatic stunting of plant growth. As mentioned before, leafminers also attack a variety of plants and weeds, so destruction of weeds and crop residues in and around the garden is recommended. And since the leafminer larvae fall to the ground to pupate before flying away as an adult, deep plowing and/or tilling between crops will bury these pests deep in the soil, making it more difficult for the adult insects to emerge and start the cycle once again.

UF UNIVERSITY of FLORIDA IFAS Extension Baker County Extension

Baker County Extension Service
1025 West Macclenny Avenue
Macclenny, FL 32063

UF UNIVERSITY of FLORIDA IFAS Extension Baker County Extension

Phone: (904) 259-3520 Email: alamborn@ufl.edu Website: http://baker.ifas.ufl.edu

For Extension Programs offered around the state, see the IFAS Extension Web Calendar at http://calendar.ifas.ufl.edu/calendar/index.htm.