Water, Water Everywhere (and Mosquitoes!)

It’s been said before: Florida is a state of extremes. Only a few weeks ago, the landscape was parched and dry. Then came Hurricane Debby, and too much water all at once. And it’s likely that we will again be parched and dry a few weeks from now!

If you are wondering how the recent flooding affects your trees and plants, check out our article ‘Flood Damage and Your Trees’ on pages 7 and 8. Along with all the water came hordes of hungry mosquitoes! See the University of Florida's recommendations for dealing with these pests on page 6. As always, we have our calendars for what to plant and what to do in your garden on pages 2, 3 and 4 and on page 7, a great article by Wendy Helmy-Hartman on an insect most of us can find in our gardens, the two striped walking stick.

For many people in Florida the water that Debby brought us was too much, too fast. One client told me how he and his wife waded through waist deep water to get to their home. Living on the ‘sand hill’ as I do, the water was very welcome, and although we had 11 and 1/2 inches of rain in just 2 days at my house, there was never a puddle and no standing water. However, that has not stopped the mosquitoes from finding me!

By: Laurie Compton

Rattlesnake Weed: Florida betony

A member of the mint family, Florida Betony (Stachys Floridana) is a native perennial weed that is very difficult to control. It can be recognized by the white / tan tuber, which resembles a fat grub or a rattlesnake, the square stems and white, pink or blue flowers. You must dig down to find the tuber, as it will break off from the plant if you try to pull it out of the ground. The tubers make Florida betony tough to control. Even when above ground foliage and stems are killed with herbicides, the tubers allow the regeneration of the plant repeatedly. When attempting to control this weed, it helps to be more persistent than the plant. Anticipate that it will take at least two years of treatment to eradicate established areas of Florida betony from your lawn or ornamental beds. In the meantime, remove all new Florida betony plants as soon as you notice them. Take special care to remove the underground tubers. For control methods, call your Extension office.

Source: http://edis.ifas.ufl.edu/ep388
In the Garden: What to Plant in July

**Bedding Plants** such as coleus, crossandra, ornamental pepper, and tropical milkweed planted now should last until November. As the heat continues, keep annuals evenly moist. Butterfly lily, gladiolus, and society garlic are **bulbs** that can be planted during the middle of summer. Watermelon, pepper, okra, southern pea, and eggplant are **vegetables** that can be planted now as long as water is provided during dry spells. Watch for caterpillars and aphids on leaves and fruit. Continue planting **palms** while the rainy season is in full swing. Support large palms with braces for 6-8 months after planting. Nails should not be driven directly into a palm trunk.

*Source: [http://solutionsforyourlife.ufl.edu/lawn_and_garden/calendar/pdfs/July_North.pdf](http://solutionsforyourlife.ufl.edu/lawn_and_garden/calendar/pdfs/July_North.pdf)*

In the Garden: What to Do in July

**Lawn pests** can be a problem this time of year. Before treating, find out if an insect is the culprit and treat only the affected area. Rule out disease or sprinkler malfunction. **Solarize the vegetable garden:** Use summer heat and clear plastic as tools in preparing the vegetable garden for fall planting. It takes four to six weeks to kill weeds, disease and nematodes, so start now. Any pruning on **azaleas** should be done by mid-July to protect developing buds for next spring’s bloom. Check **trees** for damaged or weak branches and prune if needed. **Pests on Ornamental Plants:** Caterpillars may be present on trees and shrubs. Large trees can normally withstand caterpillar feeding but specimen shrubs may need treatment if damage is extensive. **Peach and nectarine trees:** Newly planted trees should be fertilized now. Apply 1/2 pound per tree of 8-8-8 fertilizer.

*Source: [http://solutionsforyourlife.ufl.edu/lawn_and_garden/calendar/pdfs/July_North.pdf](http://solutionsforyourlife.ufl.edu/lawn_and_garden/calendar/pdfs/July_North.pdf)*

Wildlife to Look for in July

- Swallow-tailed kites begin gathering in preparation for migrating south for the winter.
- Baby raccoons, foxes, armadillos, possums, and bobcats leave dens and begin following parents.
- Scrub morning glory and butterfly weed begin to bloom.

**Did You Know?** Although common in Florida, the gray fox often is inconspicuous due to its secretive habits. It is the only fox that regularly climbs trees to evade predators and to hunt its own prey, giving it the nickname "tree fox."

In the Garden: What to Plant in August

The hottest days of summer limit planting now to heat tolerant bedding plants such as: vinca, gaillardia, bulbine, and coleus. Aztec lily, butterfly lily, walking iris, and spider lily bulbs can be planted any time of the year, even late summer. Herbs that can be planted from plants (not seeds) include bay laurel, ginger, Mexican tarragon, and rosemary. This month starts the fall planting season for vegetables. Many cool season crops can be planted now, including a final crop of warm-season vegetables such as pepper. Tomato can be planted for the fall garden. Stop by your Extension office and pick up a copy of the Florida Vegetable Gardening Guide for more planting ideas.

Source: http://solutionsforyourlife.ufl.edu/lawn_and_garden/calendar/pdfs/August_North.pdf

In the Garden: What to Do in August

Lawn problems: Damaged areas can be the result of insects, disease, or irrigation problems. Be sure to determine the cause so the proper remedy is used. Use a sharp mower blade and only remove 1/3 of grass blade to reduce stress on the lawn. If older fronds are yellowing on your palms, you may have a magnesium or potassium deficiency. Apply an appropriate palm fertilizer. Pinch back poinsettias and mums before the end of the month to allow time for buds to form for winter bloom. Rapid growth and leaching rains may result in nutrient deficiencies in some plants. Fertilize those plants that show signs of deficiencies. Bedding Plants: Remove spent blooms, cut back, and fertilize flowering annuals and perennials to extend the bloom season into the fall months.

Source: http://solutionsforyourlife.ufl.edu/lawn_and_garden/calendar/pdfs/August_North.pdf

Wildlife to Look for in August

♦ First flocks of blue-winged and green-winged teal arrive to winter on Florida lakes and wetlands.
♦ Two-year old black bear cubs will wean from their mothers.
♦ Short-tailed shrews will begin a second round of breeding for the year.
♦ Thousands of great southern white butterflies can be seen migrating through coastal areas.

Did You Know? The blue-winged teal is found on shallow ponds. After the mallard, it is the second most abundant duck in North America. Members of this species travel great distances between breeding and wintering grounds, up to 7000 miles.

Source: http://edis.ifas.ufl.edu/uw287
In the Garden: What to Do in September

If summer bedding plants need refreshing, try ageratum, celosia, zinnia, and wax begonia for color into fall. **Bulbs:** Add color, texture, and pattern to the garden with the many varieties of Elephant’s Ear (Alocasia) available now. Others to plant now include calla, narcissus, and zephyr lily. **Herbs** that tolerate the warm temperatures of early fall include Mexican tarragon, mint, rosemary and basil. **Vegetables:** Plant cool season vegetable crops such as radish, carrot, cabbage, and lettuce.

*Source: http://solutionsforyourlife.ufl.edu/lawn_and_garden/calendar/

In the Garden: What to Do in September

**Lawn problems:** Continue to monitor the lawn for signs of insect damage. Fall armyworms, chinch bugs, mole crickets, and sod webworms are still active this month. **Divide and replant perennials and bulbs** that have grown too large or need rejuvenation. Add organic matter to new planting areas and monitor water needs during establishment. **Fertilize lawns:** Bahia, Bermudagrass, Zoysia and St. Augustine lawns should be fertilized this month. Choose one with no or very little phosphorus unless a soil test indicates a need for it. A fertilizer containing controlled-release nitrogen will give longer lasting results. **Lawn weeds:** Healthy grass is the best defense against weeds. Avoid “weed and feed” products; only apply herbicides to areas with weed infestations. **Flowering perennials:** Firebush, firespike, russelia, and other perennials supply nectar for visiting hummingbirds. **Vegetable gardens:** If not done in August, prepare the fall vegetable garden. Using transplants from your local garden center will get the garden off to a fast start, but seeds provide a wider variety from which to choose.

*Source: http://solutionsforyourlife.ufl.edu/lawn_and_garden/calendar/

Wildlife to Look for in September

♦ Get feeders ready for returning birds.
♦ Bald eagles return to nest sites and begin courtship.
♦ Deer breeding begins in south Florida flatwoods.

**Did You Know?** In the late 1930s, there were only about 20,000 deer in the state and they were nearly extirpated in south Florida in an effort to eradicate tick-borne diseases. The Florida Game and Fresh Water Fish Commission responded to this by purchasing deer from various sources and transplanting them to unoccupied areas in Florida and by prohibiting the killing of adult females. These efforts were successful and now population estimates exceed 700,000 deer statewide. In several areas, deer have become so numerous, landowners complain of damage to agricultural crops and ornamental plantings.

*Source: http://edis.ifas.ufl.edu/ww121*
The Cutting Edge

What's Buggin' You

The Two Striped Walking Stick

By: Wendy Helmey-Hartman

The two-striped walking stick is the most common stick insect in Florida. There are several other common names for this insect as well, including devil’s riding horse, stick bug, and prairie alligator. This insect lives throughout Florida and the southeastern United States.

The two-striped walking stick is rather thick-bodied with females approximately 2-3 inches in length. Males are more slender and are 1-2 inches in length. They are typically brown in color with light and dark stripes running the length of the body. These insects are often found in pairs with the smaller males on top of the larger females. One interesting fact is that there is a color pattern for this species that is unique to the Ocala National Forest scrub. In this area, this species is black with white stripes, rather than the more typical brown with light and dark stripes.

The two-striped walking stick is herbivorous. They will feed on both trees and shrubs. This species has been observed feeding on plants such as crepe myrtle, roses, oaks, rosemary, and lyonia. Although these insects can sometimes be found in large numbers, they are not known to cause serious defoliation. In Florida, the two-striped walking stick is most abundant in the fall. During this time, eggs are laid by the females in the soil. Little additional information has been reported about the life cycle of this species.

The two-striped walking stick possesses an effective defense against predators. It can discharge a strong-smelling liquid from two glands that open just behind the head. When disturbed or approached by a predator, these insects can accurately propel their defensive secretions at least 1-2 inches to deter the potential threat. These secretions are known to be effective against beetles, mice, ants, and birds. They can also cause injury to humans or dogs if the secretions get in the eyes. Although excruciating pain and light sensitivity have been reported in some cases, these symptoms disappeared after several days with no lingering effects.

The two-striped walking stick is an interesting insect that is a “master of disguise” as it resembles a walking “stick” (imagine that!). Although fascinating to watch, this species is one that should be viewed from a distance to avoid the potent liquid defense possessed by these individuals!

Sources: EDIS Publication #EENY-314, .
Retrieved from http://entnemdept.ufl.edu/creatures/misc/walkingstick.htm
Mosquitoes

After the recent much needed rains, we are all looking for ways to keep from being bitten by swarms of mosquitoes.

How to Avoid Mosquito Bites

The best way to avoid being bitten is to avoid mosquito-infested areas and wear protective clothing and insect repellent. If a mosquito is carrying a virus, that virus can be transferred to humans through the mosquito’s saliva. In Florida, these viruses can cause encephalitis or dengue fever. Mosquito-borne diseases of public health concern in Florida include St. Louis encephalitis, eastern equine encephalitis, West Nile virus encephalitis, and dengue. Peak mosquito activity of varieties that carry encephalitis occurs around dusk and dawn. The insects prefer calm, shady, humid areas. Dengue-carrying mosquitoes are daytime biters and usually do not fly far from the containers where they spend their immature stages.

If you are at home, make sure you eliminate standing water areas where mosquitoes can breed (e.g. puddles, fish ponds, bird baths, rain barrels, used tires, leaf clogged drains, plant saucers). Avoid mosquitoes by wearing protective layers; the more skin you cover, the fewer bites you will receive. Repellents are used to “repel” mosquitoes; they do not kill them. The best repellents provide protection for a long period of time per application. Current repellents are either synthetic or plant derived chemicals available in spray, wipe-on, foam, or lotion formulas.

DEET is a highly effective repellent. In addition to DEET, the CDC added Picardin and Oil of lemon-eucalyptus to its list of recommended repellents.

The EPA has determined that correct and normal usage of DEET is not a health concern. “Natural” repellent alternatives are not necessarily “safe” repellent alternatives. These products contain plant oils that can be toxic and irritating in high concentrations. Always follow label directions.

Ineffective Ways to Prevent Bites

Sound Devices: There is no evidence that sound-emitting devices will repel mosquitoes.

Eating Certain Foods: There is no scientific evidence that eating garlic, vitamins, onions, or any other food will make you less attractive to mosquitoes. A complex interaction of many chemical and visual signals determines mosquitoes’ attraction to you. For some individuals food is a determining factor, but it may not be for others.

Mosquito Control Methods: Bug zappers use UV light to lure mosquitoes into an electrocuting trap. Studies have determined they do not reduce the amount of mosquitoes and they kill other bugs, such as moths and beetles, more than mosquitoes.

Bats and purple martins will eat mosquitoes; however, they have a varied diet, and mosquitoes only make up a small portion. Birds and bats cannot significantly reduce numbers and control mosquito populations during peak abundance.

Source: http://solutionsforyourlife.ufl.edu/hot_topics/environment/mosquitoes.html
A frequently asked question as torrential rains and overflowing rivers begin to recede is “how long will trees tolerate flooding before injury results?” Unfortunately, there is no easy to answer to this question. Environmental conditions associated with flooding are poorly understood and individual trees, even within the same species, may respond differently to flooding. There are a few ‘rules of thumb’ regarding flooding: Typically, flooding during the growing season is more harmful than flooding during dormant periods. Also, the longer trees are exposed to flooding waters, the greater the potential for injury. Mature, well-established trees are more tolerant of flooding than over mature trees or seedlings. Vigorous, healthy trees withstand flooding better than trees that were already under stress. Most trees can tolerate flooding for short periods during the growing season but if flooding is recurrent or uninterrupted and keeps soils saturated, serious damage to trees may occur.

Flood-stressed trees exhibit a wide range of symptoms including leaf chlorosis (yellowing), defoliation, reduced leaf size and shoot growth, epicormic sprouting (sprouts along the stem or trunk), and crown dieback. Early fall coloration and leaf drop can occur.

Large seed crops may appear on stressed trees in the growing season after flooding. These symptoms may progress to tree decline and death, they may reoccur for several years and then eventually disappear, or subside as early as the next year, indicating rapid tree recovery. Flooding reduces the supply of oxygen to the soil and roots and usually results in growth inhibition and injury. Deposits of sediments during flood conditions can also contribute to poor soil aeration. Deposits of silt or sand as shallow as three inches can be harmful, especially to newly planted trees. Finally, strong currents and soil particles suspended in flood waters can erode soil from around the base of trees, exposing tree roots. Exposed roots are vulnerable to drying and mechanical injury, and their occurrences may make trees more vulnerable to breakage or uprooting. Studies show long-term flooding can lead to death and decay of large portions of a tree’s root system. Flood-sensitive species unable to produce new roots after flooding quickly die, whereas roots of flood-tolerant trees either survive flooding or they regenerate from the root collar or trunk near the water surface.

Flood-stressed trees are prime candidates for attack by “secondary organisms.” Several opportunistic disease-causing fungi and insects invade trees that are weakened or stressed. A group of fungi called the water molds, including *Phytophthora* and *Pythium*, can attack trees only when the soil is saturated or nearly saturated. Fungal spores swim through the soil water and invade the tree, causing the roots or crown to turn brown and become wet and decayed.
The first indication of damage may be yellowing or falling of leaves, dieback of limbs, or failure to leaf-out in the spring. Other fungi cause cankers (areas of killed, discolored bark) on branches and trunks of weakened or stressed trees.

Flooding, drought, and premature defoliation impair the trees defense mechanisms and trigger responses that release carbohydrates, sugars, and other nutrients which seem to invite insect and fungal pathogen attack. Because canker fungi typically won’t attack trees that are not already weakened, they are sometimes called “secondary attackers.”

Both water molds and canker fungi are most damaging to flood-intolerant tree species planted on poorly drained, clay soils or on sites flooded for prolonged periods. Their effects may become apparent immediately following the flooding event, or may appear several years later. The best strategy in dealing with potentially flood-stressed trees is to minimize additional stress or injuries to allow the maximum chance for natural recovery.

Stem boring insects such as phloem borers and wood borers are the major “secondary” insects of concern. Phloem borers damage portions of the tree responsible for food and water transport. Wood borers feed within the wood of stems and branches causing them to weaken and break during wind storms. Minimizing additional stress or injuries should be a priority on high-value trees for 1 to 3 years after flooding to reduce the chance of attack by insects.

Very little is known about the effects of long-term flooding during the growing season on many ornamental tree species. In fact, the full impact of flooding may not be known until the year after flooding, or perhaps even several years. Severe cold arriving unseasonably early, an exceptionally harsh winter, or a reoccurrence of flood conditions in subsequent years may push some trees, already suffering from the effects of flooding, into irreversible decline.

The best approach to managing flood-stressed trees is to enhance their vigor by following proper tree-maintenance practices and eliminating additional stresses. Dead or severely cankered branches should be removed as soon as possible. Other corrective pruning should be delayed until the late dormant season. Aerating the soil, mulching, and watering during extended dry periods are recommended tree-care practices that can help enhance vigor, but they are not rescue treatments for severely injured trees. Trees developing substantial dieback and decline symptoms or those possessing defects that decrease their structural integrity, making them more prone to windthrow and structural failure, should be removed from the landscape immediately. Looking to the future, only tolerant species should be planted in areas prone to flooding or to prolonged waterlogging of the soil.

By: Laurie Compton

Excerpts from: http://www.extension.iastate.edu/publications/SUL1.pdf

Photos from News4Jax