Letter from the Editor

To our readers:

For a change this summer all the gardening talk doesn’t concern the length of the drought — quite the contrary as summer rains have as of this writing swept regularly across Central Florida and Osceola County. Let’s keep our fingers crossed.

Appropriately, our lead article concerns ponds and water gardening. Many readers will recognize Carolyn Lamond who, over the past two years, has been writing about Old Garden Roses in an eight-part series in these pages. This issue she begins a series on water gardening that I am sure readers will find as interesting and enlightening as her past articles.

Sandi Switek reports on a common question that comes up in the Plant Clinic, and thankfully provides an answer. She also continues the saga of “The Tomato that Wouldn’t Die,” filling in for the readers observations and tales of her adventures in the garden.

We are repeating an article that appeared in last summer’s edition since it is a topic of continuing importance: “The Buzz on ‘Killer’ Bees” by Jennifer Welshans-Pelham, our Horticultural Extension Agent and Master Gardener Coordinator.

Ms. Welshans-Pelham was also kind enough to write an overview of getting ready for the fall vegetable planting season. For some reason, it always catches me unprepared, so her timing is wonderful!

And finally, our regular features: Kids’ Korner and the Central Florida Gardening Calendar. The project for the younger set will require some patience, but it should be an eye opener!

Two quick reminders: three local retailers, listed to the right of this column, are keeping county residents supplied with melaleuca mulch, a major component in the battle to protect the natural cypress forests of Florida! The mulch is composted at 140° to eliminate weed seeds and is a great way to get rid of the melaleuca that is causing so much trouble in the Everglades!

The Master Gardeners will also be selling melaleuca mulch at our Plant Sale, behind the KVLS Building in Heritage Park the first weekend of October, the 4th and 5th. Not only is this our major fundraiser of the year, but it is a great opportunity to pick up some plants nurtured by Master Gardeners in their own gardens and often not readily available at local retailers and big box stores. Hope to see you there.

Donn Barclay
Roots & Shoots Acting Editor
Eleven years ago when I first came to Florida I had never heard the term water gardening. All we knew was that we bought a house with an existing pond in the back yard. This pond was fairly large, like 13 by 30 feet with a bridge over the middle of it.

Feeling somewhat overwhelmed, since we had not a clue as to what to do with it, we considered filling it in with dirt and planting grass but wouldn’t that look odd - a bridge over grass? Perhaps a better idea would be to accept the challenge and learn how to take care of it. Off to Master Gardener School.

I’m so glad now that I chose the latter course of action because I have had many years of joy watching the birds and other wild life visit the pond to take a drink, grab a fish snack, or just take a bath. I have learned about aquatic plants especially water lilies.

I hear the bull frogs serenade each other in the evenings. The sound of the water fall sooths my nerves when I’ve had a bad day.

In the past eleven years water gardening has become more and more popular here. There is so much more information out there now and supplies for ponds more available. I remember when I had to go all the way to Merritt Island for plants and other supplies. I was going to write an article about water lilies for this issue but then when I sat down to the do that I realized I had the cart before the horse. An understanding of ponds is necessary to understand how to grow pond lilies and other aquatic plants. I will begin a series of articles starting with what water gardening is, and then discuss different types of ponds, and different plants for ponds. I also will include a chapter on pond wildlife.

Water gardening is just that, growing plants in water. The vessel containing the water can be as small as a large pot to a large concrete, plastic, or mud bottom one. There are many choices. Your pond can have different varieties of water lilies, marginal plants, and submersed plants. Water gardens can be constructed to have fountains, waterfalls, and even a stream. If you are a fish fancier fish can be added to the pond which tends to bring large birds looking for dinner.

Some people worry that a pond will be a breeding place for mosquitoes but the natural occurring wild life such as dragon flies and damsel flies, along with frogs and mosquito fish take care of the mosquito larvae. These particular critters seem to appear all on their own.

A water garden, like any other garden, requires attention and maintenance on a regular basis; however, there (Continued on page 4)
From the Plant Clinic
By Sandi Switek, Plant Clinic Coordinator, Master Gardener (2005)

**Question:** We are new here and would like to plant a few trees in our yard. Which kinds will not get too big and won’t need too much water? Our yard seems to stay dry all of the time.

**Answer:** There are quite a few good ones to choose from. A non-dwarf crape myrtle will flower in the summer, while a tabebuia, which is less cold hardy, will flower in early spring. A native Chickasaw plum will flower during the cool season and later produce wild plums. Another beautiful tree which bears edible fruit is a loquat.

For a tropical look, there are a few palms which should adapt to your conditions. The Jelly Palm (Butia Capitata) and the Pygmy Date (Phoenix Roebelinii) will stay pretty small. The Paurotis Palm does not get huge, but does form clumps in time. There is also the Sabal Palm (the Florida state tree), which gets a little taller.

There are a few native oaks which won’t get as huge as a Live Oak or a Laurel Oak. The largest of these is the Sand Live Oak, which closely resembles a live oak in form, but usually stays significantly smaller. Just be sure to choose a tree which is not suckering in its pot. Somewhat smaller than the Sand Live Oak are the Myrtle Oak, the Chapman’s Oak, and the Turkey Oak.

The Seagrape is a rather interesting shrubby tree with huge leathery leaves. Although somewhat frost-sensitive in winter, it is otherwise carefree. Finally, if all else fails, there is the old standby, the ligustrum. Simply buy one and let it become a tree, instead of pruning it as a shrub.

We realize that some of the native plants mentioned here can be difficult to find. However, there is a booklet available in the Plant Clinic which contains a list of most of the native plant nurseries. The more common selections should be available anywhere. Once established, these trees should not be water guzzlers.

(Continued from page 3) **Water Gardening Pt. 1**

is no need to turn on the sprinklers or worry that your plants will dry up when you go away on vacation. The birds will love you. I have had great blue herons, green herons, hawks, a barred owl, blue jays, cardinals, mocking birds, and of course grackles.

If you are already into water gardening stay tuned for more on the subject. If you are someone who may give it a try I suggest you stay tuned to learn just where and how to begin. Always start small and graduate bigger rather than going all out all at once and trying to cut back. Spring is a good time to begin so this time next year you will have some ideas for what you want to do in your yard. Next time we will look at the different types of ponds.
Fall Vegetable Gardening
by Jennifer Welshans-Pelham, Osceola Extension Horticulture Agent

With the summer heat, it’s hard to think about getting outside to do some gardening. However, the time has come to start your Fall vegetable gardening. In the summer, we were limited to what we could grow because of the hot temperatures. Now with the cooler days approaching, we can grow an abundance of vegetables.

Florida is very unique in the fact that we have multiple growing seasons. There is something that can be grown in the garden all year round and knowing what vegetables can grow during which seasons is the beginning of a successful garden. For example, vegetables that can be started in August include pole beans, sweet corn, peppers, southern peas, and spinach. In September it is time to begin planting cucumbers, lettuce, tomatoes, brussels sprouts, and radishes, just to name a few.

lt can be very exciting when it comes time to plant a garden, but one should plan ahead and first develop a planting guide. This includes deciding what to plant and where to plant it, making sure the garden gets at least six hours of sun a day. It is very important to follow spacing recommendations on the seed packet and remember to keep ample space for those spreading vegetables, such as pumpkins, cucumbers, and squash. If planted too close, your plants will not be able to grow and produce to their full potential. They may also experience disease problems from the overcrowding.

Before planting the garden, it is also a good time to begin gathering all the materials you will need during the season. These can include seeds, beanpoles, stakes, string, row markers, fertilizer, and even fence to keep out those pesky garden pests. Have them ready for your own convenience.

While you can plant your garden on whatever soil type is available in the plot, you may improve your soil by adding topsoil, a soil mix, or organic materials. Most Florida soils are very sandy and will benefit from applications of various forms of organic matter such as animal manure, rotted leaves, and compost. These additives should be mixed into the plot at least 3 weeks before planting. Then rework the soil into a fine firm seedbed at planting time.

The organic matter will most likely not compensate for fertilizer. Applications of balanced inorganic fertilizer should be ap-

(Continued on page 6)
plied before and during the garden season. A slow-release commercial fertilizer, labeled for vegetable gardens (8-8-8 or 15-15-15), should be broadcasted over the area 1 week before planting. This will be enough to give the plants a good start, however, they will probably need to be fertilized additional times during the growing season. Follow the recommended practices on the fertilizer bag.

Water is essential for growing vegetables, however too much water can be devastating, causing disease and rot in the garden. Provide sufficient drainage for excessive rainfall, while arranging for irrigation during dry periods. The frequency of irrigation depends upon your soil type. Sandy soils need water 2 or 3 times a week. You can easily tell if your garden needs water by digging down an inch or two in the soil. If the soil is dry, it’s time to water. You can help conserve water in your garden by using mulch and organic matter, which have water-holding capabilities.

Keeping pests out of the garden, including weeds, can be a difficult task. Weeds are bad in the garden because they compete with the vegetable plants for water, nutrients, and growing space. Weeds are easier to control when small. In gardens, practical weed control is best accomplished by hand-pulling, hoeing, or mulching. Chemical herbicides are not suggested because they may also harm your tender vegetable plants.

Visit your garden frequently, looking for insects and disease. When pests are present, spray only affected plants. Make sure that all chemicals that are used in the garden are labeled for vegetable gardens. Follow the label directions for application amounts and timing. More is not better and may actually damage your plants.

Gardens are fun. They provide many benefits, including fresh air, sunshine, exercise, enjoyment, mental therapy, fresh vegetables, and economic savings. It’s very rewarding to eat a vegetable directly from your garden, knowing the hard work and enjoyment that was put into its growth.

For more information on vegetable gardening, contact the University of Florida Osceola County Extension office at (321) 697-3000.

### Melaleuca Mulch Participating Nurseries

In addition to being available at our Plant Sale, October 3-4, Melaleuca Mulch is also currently available at the following participating retail locations in Osceola County to help reduce cypress harvesting for mulch.

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Kids’s Korner
Make a Plant Maze!

Have you ever noticed how plants grow toward light? This is called phototropism (foh-toh-TROP-iz-im). To discover just how determined plants are to find light, make this simple plant maze.

Materials needed:
- Small carton or large shoe box
- Small flowerpot filled with potting soil
- 1 or 2 runner-bean seeds
- Cardboard

Instructions:
1. Cut a hole in one end of the box
2. Add two pieces of cardboard inside with holes cut in them to make the maze for the bean seedling.
3. Plant the seed about an inch (2.4 cm) deep in the pot and keep it moist so the seed can sprout. It should take a few days, so don’t over-water!
4. When it sprouts, put the pot at the end of the box away from the end with the hole.
5. Keep the box covered, with light entering only from the hole.

Observe the box every other day. Did your plants reach for the sun? How do you think they knew where to go?
It may seem like they are only found in the B-grade horror movies ("Killer Bees" in 1974 and "The Swarm" in 1978), however Africanized honeybees are real and have been verified as present in Osceola County. Preferably referred to as “Africanized honeybees” (AHB) rather than “killer” bees, these very defensive bees were first found in Florida in 1992. Within the past year, the number of colonies in Florida has increased substantially.

The Africanized honeybee is the same species as the European honeybees (EHB), which is the bee commonly used in the United States in agriculture and for honey production. The AHB differs from the EHB primarily in its behavior. The AHB defends its nest far more intensely and in greater numbers than does the EHB. Where only 5-10 European honeybees will defend their disturbed nest, thousands of Africanized honeybees respond to defend their nest. The AHB will also chase an enemy up to 150 yards. Their defensive behavior is thought to have evolved because of the many biological competitors in the bee’s native Africa. There, only the most defensive bees can survive.

In comparison, the European honeybees in the United States have been selected by beekeepers for their manageable traits, including gentleness, reduced swarming, and high honey hoarding. As a result, the EHB is much more gentle and predictable in their behavior than the AHB, making them the ideal bee for U.S. agriculture and honey production.

The survival strategy of the Africanized honeybee is to expend energy into producing large numbers of offspring and generating many reproductive swarms. This behavior was developed due to the frequent destruction of the colonies by predators and the harsh environmental conditions in Africa. These characteristics make the AHB well suited to tropical environments.

The European honeybee’s survival strategy differs from that of the AHB; it defends its nest and swarms to a lesser extent. The EHB expends most of its energy producing and storing honey needed to survive the long winter months when resources are absent. These characteristics make the EHB well suited to temperate environments.

European honeybees need large areas or voids to build a nest so they have space for all that honey. Africanized honeybees will nest in much smaller cavities and sometimes underground. They are not even that particular where they construct their nests. Common AHB nesting sites include abandoned vehicles, empty containers, fences, lumber piles, manholes, water meters, utility infrastructures, old tires, trees, garages, outbuildings, sheds, walls, chimneys, crawl spaces under houses, and any place that has an access hole. An AHB colony was even found in a barbeque grill.

If you accidentally come in contact with an AHB colony, run! Running away is your best defense. Remember that they will defend their colonies up to 150 yards. Also, cover your head and face with your shirt and do not swat at them. Swatting will just make them angrier. You want to run inside a structure, whether it is a car or building. Of course some bees will follow, but that is better than confronting the 1,000 bees waiting for you outside. Jumping in a pool or lake will not help. The AHB, which are agitated for up to 24 hours, will wait until you emerge from the water.

Individuals that are most at risk for AHB stings are the young, the elderly, and the handicapped. This is because they may have trouble running away from the bees. Tethered, caged, and fenced animals that cannot escape their surroundings are also at great risk. The bees will attack anything moving within their 150 yard territory.

If you notice a suspicious bee hive and believe that they may be Africanized honeybees, contact an experienced and trained pest control company to control the situation. Because of the defensive nature of the bees and possible dangerous outcomes, you do not want to handle the situation yourself. Your local University of Florida/IFAS will have a list of the local specialized pest control companies in your county. The reality is that Africanized honeybees are going to continue to spread throughout the state of Florida. UF/IFAS specialists predict that within 3-5 years they will be found in every county in Florida, so be careful and stay on the lookout for these dangerous pests.
CENTRAL FLORIDA
GARDENING CALENDAR
July-September PLANTING GUIDE

ANNUALS

Few annuals can tolerate the summer heat and frequent rain showers. In July plant: Celosia, Coleus, Crossandra, Exacum, Hollyhock, Impatiens, Kalanchoe, Marigold, Nicotiana, Ornamental Pepper, Periwinkle, Portulaca, and Salvia.

Refresh your garden with summer color in August by planting Coleus, Kalanchoe, Marigolds, and Salvia.

If you desire cold hardy plants for winter, AUGUST is the time to sow seeds of the following in a germinating container: Ornamental Cabbage, Alysum, Calendula, Pansy, Statice, Carnation, Petunia, Snapdragon, and Shasta Daisy. When sowing seeds in a germinating container, the growing medium should never be allowed to dry. The soil mix should be moist but not excessively wet. Certain seeds require light in order to germinate. Transplant seedlings to small pots as soon as the first true leaves appear.

In September, plant Alternanthera, Blue Daze, Exacum (Persian Violet), Foxglove, Kalanchoe, and Wax Begonia. All are heat tolerant and will be colorful until first frost, which may be late November.

PERENNIALS AND BULBS

**Bulbs for July and August** planting include: African Iris, Aztec Lily, Butterfly Lily, Crinum, Gladiolus, Iris, Kaffir Lily, Society Garlic, Spider Lily, and Walking Iris.

Pentas, Verbena and Blue Daze will bloom until frost and usually sprout from the roots in the spring.

Additional bulbs for **September** planting include Elephant Ear, Amaryllis, Calla, Watsonia, Lilium, Shell Ginger, Zephyr Lily, and Pineapple Lily. Gladiolus will bloom three months after planting.

**FRUIT**

Fruits grown in containers can be planted year around. Set out strawberry plants in the landscape, garden or containers for winter and spring crops.

Harvest any oranges from last year's crop, which may still be on the tree. Holding fruit on the tree this long will result in dry and tasteless fruit. Bears lemon, Persian lime and Key limes are harvested during the summer. All are very cold sensitive so take special precautions.

Summer fruit harvest includes avocado, figs, guava, mango, pears, persimmon, and pomegranate. Bunch grapes usually ripen in July, while muscadine grapes are ready for harvest in August and September.

If citrus shows symptoms of greasy spot disease (black oily spots on yellowing leaves), spray with a fungicide and rake fallen leaves. Keep grass and weeds away from citrus tree trunk. Check for flaking of the bark, near the soil line and yellow leaf veins indicating "foot rot" disease of citrus.

(Continued on page 10)
In July, fertilize first year blackberries, peaches, pecans, chestnuts and persimmons.

Blueberries need only a small amount of fertilizer. Over fertilizing will kill the plants, so limit application to February and July.

In August, fertilize established banana, avocado and guava. Apply the third and final fertilizer for the year on established peaches, pecans, persimmons, chestnuts, and blackberries.

September is the last month of the year to fertilize. Fertilize citrus, pineapples, guavas, loquats, and mango.

VEGETABLES

July heat limits planting. Okra and southern peas are tolerant of summer conditions.

August is the beginning of our fall planting season. Plant pole beans, broccoli, celery, collards, okra, sweet corn, eggplant, onions, southern peas, peppers, pumpkin, summer squash, Swiss chard and watermelons.

In September, plant southern hybrid bulbing onions (Texas Grano, Granex, Excel) to have bulbs for spring harvest. Bulbing onions planted after December yield only green onion tops instead of bulbs. Also in September, cool and warm season plantings overlap. Plant cold sensitive crops which mature before frost: beans, corn, cucumbers, eggplant, peppers, summer squash, and tomatoes. Cold hardy vegetables include broccoli, cabbage, celery, endive, escarole, lettuce, mustard, bulbing and bunching onions, peas, radishes, rutabaga, Swiss chard, strawberries, and turnips.

If roots show swelling from nematode damage, treat soil before fall planting. A chemical free way is to solarize using free solar energy to heat sunny gardens and bake soil pests. Prepare soil as if for planting, then water and cover with clear (not black) plastic for six weeks. When ready to plant, avoid disturbing the soil as much as possible.

Test soil pH every two to three years and adjust if necessary. It is good to make adjustments when preparing the soil for the upcoming season.

Insects and disease can be major problems in the fall garden. Summer rain and warm temperatures are ideal for disease and insects. Remove old or dead plants. Throw them away so they are not a breeding ground for pests and disease.

Peanuts planted in the spring should be ready for harvest in September.

LANDSCAPE

Prune azaleas before July 4 or you will have few flowers next spring. Do last pruning of other shrubs in September so new growth matures before first frost. Remove old flower blooms to extend flowering. Poinsettias set buds in mid-September so continue pruning poinsettias until Labor Day for best growth and flowering.

Fertilize annuals and perennials during soil preparation and then monthly. Do not fertilize new plants at planting time, wait at
least a month. In September, apply fall application of fertilizer to landscape plantings. Occasionally poinsettias need another application of fertilizer in July if heavy rains follow the June application.

Check weekly for lacebugs, aphids (new growth), caterpillars, scale (variegated Ligustrum, camellias, pittosporum, holly, podocarpus, and magnolia), spider mites and whitefly. Check for powdery mildew (crane myrtle, roses, and Gerbera) and maintain frequent rose fungicide spray program during summer rains. Control aphids, scale, spider mites and whitefly with horticultural oil or horticultural soap; caterpillars with bt (bacillus thuringensis) product. Follow directions on product carefully.

September is the time to root-prune plants to be moved in January or February.

Balled and burlap or bare root field dug palms can be planted during our rainy season. Be sure to purchase from a reputable individual with experience moving palms. Cold hardy landscape plants grown in containers can be planted any time of year. Hold off on planting tropicales, which will need to be protected from frost, and freezing temperatures.

**LAWNS**

Sow seeds or lay sod for Bahia grass, Bermuda grass and Centipede grass. Plant St. Augustine grass plugs, sprigs, or sod.

Keep mower blades sharp. Leave grass clippings on the lawn to recycle nutrients naturally.

**Wait until September** to apply the fall application of complete fertilizer to Bermuda, Bahia and St. Augustine grasses. Obtain green-up without applying nitrogen fertilizer by using liquid iron. If fertilizer is deemed necessary earlier in the summer, apply fertilizer containing only natural organic or slow release nitrogen to prevent insect problems.

For the most effective control of mole crickets, apply baits or sprays as soon as the pest is seen. Due to the maturity of the mole crickets later in the summer, control is more difficult.

Watch for brown thinning patches in the lawn, which could indicate chinch bugs in St. Augustine grass, or caterpillars or diseases. Diseases can be severe due to frequent afternoon showers. Chinch bugs are very small. To test for them, remove top and bottom from large can, push into soil, fill with water; they should come to surface within a few minutes. To bring sample in to Plant Clinic, cut section that includes both brown and green grass from edge of damage.

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**Melaleuca Mulch Participating Nurseries**

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As spring and early summer continue to bring new flowers to my gardens, my tomato plant continues to thrive. With four stakes to climb on, plenty of fertilizer, and its very own microjet, the plant still rewards us with decent tomatoes.

However, this does not mean that there haven't been any more obstacles for this unusual tomato plant to overcome. To my surprise, the latest problem was caused by a new resident in the yard, which turned out to be a mockingbird. Recently, when the tomato plant had about 20 pale orange tomatoes on it, the bird showed up and pecked holes in all 20 of them. Some of the fruits were pulverized so badly that they scarcely even resembled tomatoes at all any more.

As my husband and I began to suffer from tomato withdrawal symptoms, we knew that we had to do something about that bird. It had already stolen our last loquats back in March. The bird accomplished this by squatting on top of the fruit and pecking, just as I raised my hand to try to pick the fruit.

When my husband brought home a bird net from the garden center, I thought our problem was solved. While the net did keep the bird off of the tomato plant, it kept the bees out as well. As I watched, the bees would fly up to the net and turn around, afraid to try to pollinate the many new tomato blooms. As the pre-existing green fruitlets grew and matured, no new ones appeared. I was finally advised to pollinate the flowers myself by shaking the branches. Not being very good at it, I got only about 30% of the flowers to fruit. When it finally occurred to me that the new blooms did not yet need a net over them, I began to cover only the fruit. Now, with the aid of the bees, the plant is able to produce its normal crop once again. Of course this doesn't mean that the upcoming heat can't bother them.

Since my tomato plant is now two years old, I have been planning to start some new plants from its seeds. While I have collected and dried quite a few seeds, I have failed to plant any of them as yet. Back when the pesky bird was still destroying my tomatoes, I did fling all of the ruined fruit down on the ground in the garden, hoping that a seed might sprout someday. However, this practice seemed not to be working and was long forgotten as I recently decided to kill all of my weeds with Roundup. As I sprayed mindlessly, I can remember thinking about how the weeds were getting so tricky that they were even disguising themselves as tomato plants. Before I had time to reason, I had shot three "tomato weeds" with the deadly poison.

It seemed as if it took an eternity to carry a bucket of water over to the poor baby tomato plants and drench them in hopes of saving their lives. Fortunately, the plants sustained only minor damage, and now it appears that I do have three offspring of "the tomato plant that wouldn't die".

As for the pesky mockingbird, he is still around and has not given up on ruining my produce. After being deprived of my tomatoes, he found a few bunches of bananas to begin pecking on. Fortunately, I had some leftover bird netting.

As I look out at the tree full of fattening mangoes, I start to dread the day that the bird discovers those. However, until then I will continue to eat and enjoy the fruit of "the tomato plant that wouldn't die."

The Complete  Roots & Shoots

With full color photographs is available online:

http://osceola.ifas.ufl.edu/mg_archive.shtml

(click on the year you want, then the issue)

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With “Roots & Shoots” in the subject line
Published and written by the

Osceola County Master Gardeners

Add’l Info: 321-697-3000