

# POLK COUNTY URBAN HORTICULTURER NEWSLETTER

August/September 2008

Volume 8 Number 3

## EXTENSION PROGRAMS

### Florida yards and Neighborhoods Program:

Composting Workshop -Monday, September 22<sup>nd</sup>, 6:00 - 7:30 p.m., Lakeland Police Department Community Room, 219 N. Massachusetts Ave, Lakeland, FL.

Creating a Florida-Friendly Yard: Water Conservation, Micro-Irrigation and Plant Installation Workshop - Wednesday, October 8<sup>th</sup>, 6:00 - 8:30 p.m., Southern Dunes Clubhouse, 2888 Southern Dunes Blvd, Haines City, FL.

Florida-Friendly Landscaping Workshop - Tuesday, October 14<sup>th</sup>, 6:00 - 7:30 p.m. Quality Inn, 43824 Hwy. 27, Davenport, FL.

Butterfly Gardening Workshop - Wednesday, November 19<sup>th</sup>, 10:00 - 11:00 a.m., Quality Inn Meeting Room, 43824 Hwy. 27, Davenport, FL.

Florida-Friendly Landscaping Workshop - Tuesday, December 2<sup>nd</sup>, 6:00 - 8:00 p.m., Holiday Inn Lake Mirror Room, 3260 US Highway 98 N., Lakeland, FL.

Creating a Florida-Friendly Yard: Water Conservation, Micro-Irrigation and Plant

Installation Workshop - Tuesday, December 9<sup>th</sup>, 6:00 - 8:30 p.m., Champions Gate Golf

Clubhouse, 1400 Masters Blvd., Champions Gate, FL.

**Contact Anne Yasalonis, (863) 519-8677, Ext. 121 for details or visit web site <http://polkfyn.ifas.ufl.edu>.**

### Urban Horticulture - David Shibles:

Vegetable Gardening Workshop - Saturday, September 6<sup>th</sup>, 9:00 a.m. to Noon, Polk County Extension Office, 1702 Highway 17/98 South, Bartow, FL.

Master Gardener Training Program Classes - every Tuesday, 9:00 a.m. to Noon and 1:00 p.m. to 3:00 p.m., September 16<sup>th</sup> to December 9<sup>th</sup>, Polk County Extension Office, 1702 Highway 17/98 South, Bartow, FL.

**Contact David Shibles at (863) 519-8677 Ext 109 for details.**

## FALL VEGETABLE GARDENING

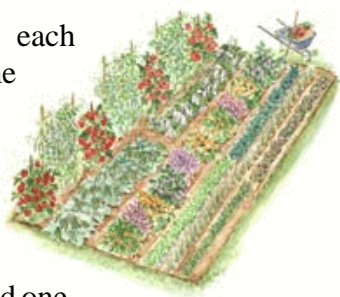
**Conventional in-ground vegetable garden** - As we see the price of produce increase almost daily in the super



markets, and we hear reports of contaminated food, many of us are considering starting our own vegetable gardens. Now is the time to start planning your fall vegetable garden. If you do not already have a garden spot, select an area that receives at least six hours of direct sunlight per day. You then need to make a garden design. Group crops by similar planting and harvest dates in order to keep the entire garden in production as long as possible. Arrange low growing vegetables such as radish, turnips, mustard, and lettuce along one side of the garden, place the medium to tall-growing plants such as pepper, bush bean and squash in the middle of the garden, and the tall growing vegetables such as pole beans, sweet corn, and stake tomatoes along the other side.

More than one crop, each requiring about the same spacing, may be planted in one row. For example, you could have bush beans, lima beans, and southern peas all planted one after the other in the same row. Run rows north and south so that exposure to sunlight is even for all rows and plants. Interplant quick growing crops like radish among the slower ones. The fast growing radishes are out of the way before the slower growing crops need the space. Allow ample space between rows for convenient cultivation with the tool you plan to use. Design your garden using crop rotation. This practice prevents diseases from living over from season to season. Try to avoid growing the same vegetable in the same location more often than once every three years.

Check the Florida Vegetable Gardening Guide for information on times of the year to plant various crops, in row and between row spacing, seeding depth, days to maturity and



other important gardening information. For more in-depth information, the Master Gardeners have a book for sale called “Vegetable Gardening in Florida” written by Jim Stephens. These books are for sale here at the Extension Office for 17 dollars.

**Soil preparation and planting** - If you are starting a new garden, then you will need to remove any unwanted vegetation on the garden site. Turf may be a little easier to remove if it is sprayed once or twice with a herbicide like Roundup. All debris should then be removed. It is then a good idea to have the soil tested for pH as well as available potassium, magnesium, phosphorous and calcium. The University of Florida Soils Laboratory does these tests for a \$7 fee. If there is an adequate amount of phosphorous, then you can buy a fertilizer which does not contain phosphorous such as a 15-0-15 or something similar.

The pH reflects the acidity and alkalinity of the soil and affects the availability of nutrients to plants. It is evaluated on a scale of 1-14 (1 being the most acid, 7 being neutral, and 14 being the most alkaline). The optimum pH for vegetables is in the range of 5.8 to 6.5. If the soil test indicates that the pH of your garden soil is below 5.5, then dolomitic limestone can be incorporated into the soil. Five pounds of dolomitic limestone per 100 square feet will raise the pH by one point for instance 5.0 to a 6.0. Lowering pH is more difficult than raising pH. The best ways to lower pH is to use acidifying fertilizer as well as adding lots of organic matter such as home compost or composted manure each year.

About three weeks before planting time, broadcast manure at a rate of 25 to 100 pounds per 100 square feet. Since animal manures may lack some of the essential plant nutrients it is a good idea to add a complete fertilizer such as 8-8-8 with micronutrients at 2-3 pounds per 100 square feet along with dolomitic limestone

if needed to adjust the pH. Manure improves the soils' capacity to hold water and nutrients around plant roots, it helps maintain a stable pH, and it supports beneficial bacteria and other necessary micro-organisms. The garden area should then be rototilled or spaded to a depth of 6-8 inches and leveled.

Use stakes, string, and tape measure to lay out straight rows. Follow your previously prepared plan. Place a garden label at the head of each row. Information on the label should include crop, variety and planting date. If you have a fence around the garden, use it to trellis vining crops such as cucumber and pole beans. Don't plant too much of any one crop at a time. To have fresh product over a long period of time, plant smaller amounts of the small crop at 10-14 day intervals. It is even possible to double crop. This is when one crop is followed by another crop in the same space. However when doing this the second crop should be of a different family such as beans followed by broccoli.

**Non-traditional vegetable gardening (containers)** - I have used five gallon buckets for years to raise tomatoes and peppers. These buckets are quite easy to set up and maintain. Drill several holes in the bottom of the bucket and then fill with a high quality potting soil. Plant one or two tomato plants in each bucket. Remove the second plant if the first one does well. The plants need to be staked with a substantial rod. I use a narrow gauge reinforcing bar about six feet long. The bar is inserted into the pot all the way to the bottom and secured to the top of the bucket in four places with 22 gauge wire. As the tomato plant grows it is tied to the bar. Fertilize the plants every 10-14 days with a soluble fertilizer for tomatoes. The bucket with the plant can easily be picked up and



brought inside during frosts and freezes.

Another container which is available for growing vegetables is called the **Earth Box**. These are available from various vendors. The cost of the basic unit is approximately \$30. The unit is about 18 inches wide and 38 inches long. The box is initially filled with a good quality potting soil to about two inches from the top. There is a perforated divider about 4 inches off the bottom which keeps most of the potting soil out of the bottom. The divider has a two by two inch opening in each end which allows some of the potting soil to reach the bottom. The divider also has a round opening into which a watering tube is placed.



Two pounds of fertilizer are placed in a narrow furrow across the top of the potting soil and covered with about one inch of potting soil, which brings the soil to about one inch from the top. It takes about two cubic feet of soil to fill the box. Finally, the whole top is covered with a plastic bonnet. The watering tube protrudes up through the plastic bonnet. The bottom is then filled with water through the tube which is absorbed by the potting soil. Water is drawn up into the potting soil by capillary action until the soil is wet. There are holes in the wall of the container just below the divider so the bottom will only retain a certain amount of water. Small slits are then made in the plastic bonnet and transplants are firmly placed in the potting soil.

The principal of this system is that the water travels up through the soil by capillary action and meets the band of fertilizer. The fertilizer then solubilizes into the water and travels to the plant roots, and in turn the plant roots grow toward the fertilizer. So, the plants have a maximum amount of fertilizer and water at all times if the reservoir at the bottom of the

container has water. The water in the reservoir will need to be replenished every day or two through the watering tube.

### **Non-traditional vegetable gardening (hydroponics)**

- There are several different types of hydroponic systems which could be utilized by the homeowner. I will speak of two systems which are currently available to the homeowner in Polk County. One



type of system is recirculating in which the hydroponic solution is pumped onto the plant roots several times per day. The hydroponic solution is captured and recirculated. In the second system (non-recirculating), just enough hydroponic solution is metered into the pots to wet the media so there is little loss. Hydroponic fertilizers are generally available. Common ones include a 5-11-26 soluble fertilizer, calcium nitrate and epsom salts (MgSO<sub>4</sub>). Organic fertilizers are also available.

Recirculating systems are available as a vertical garden in which four or five pots are stacked on top of each other at an angle which leaves space in each corner for one or two plants - four separate plants per pot and 20 or so for the vertical stack. The medium in the pots is perlite on the bottom and chopped coconut hulls (coir) on the top. The nutrient solution is pumped from a reservoir at the bottom to the top pot and the solution drains by gravity flow down through the stacked pots and back into the tub to be recirculated. Each vertical stack with this system will need a reservoir and pump, so it is pretty much limited to one vertical stack - more or less designed for a patio.



A local company is making a recirculating unit which consists of a planting tub similar to a children's swimming pool built into a cabinet. It is about 38 inches in diameter. Nutrient solution is pumped from a holding tub within the cabinet 12 times per day, at about 2-3 minute intervals up into the plant bed. The solution then drains back down into the tub to be re-circulated. The growth medium is perlite which has been washed to remove fine particles. This system will accommodate seed or transplants. We currently have a unit here at the Extension Office as a demonstration garden. The vegetables are doing very well.

The vertical garden system, which I previously discussed, is also available in a non-recirculating form. As with the vertical recirculating system, each individual vertical stack of five pots can accommodate 20 or more plants. The vertical stacks of pots are held in place by a five foot section of 3/4 inch electrical conduit which is driven into the ground. The pots have a hole in the center and are sled down over the conduit. The stacks are spaced about 36 inches apart. The medium in the pots is similar to the recirculating unit - perlite and coir.

The hydroponic solution in the non-recirculating system is pumped from a remote tub through white poly tubing across the top of each vertical stack. A spaghetti tube runs from the poly tube down into the top pot in each stack. Hydroponic solution is pumped into the top pot in each stack 3 or 4 times per day for 2-3 minutes. The solution runs down through the pots by gravity flow. The pump only needs to run long enough to wet the medium in the pots - any excess runs out the bottom. This type of system can have rows of vertical stacks and is only limited by



the size of the distribution pump. A homeowner could operate 3 or 4 vertical stacks accommodating 60 plants or a commercial farmer could have a system accommodating thousands of plants. We currently have a small system at our office as a demonstration.

**Pest control** - There are many insect and nematode pests which can plague the vegetable garden. Many of these pests can be avoided by planting early in the spring (late February) or in the fall (September). I think pests tend to be worse in the spring than in the fall garden. Inspect your garden twice per week and learn to identify the pests. The book by Jim Stephens on vegetable gardening in Florida has colored pictures of most of the common insect pests.

There are soil insects which can damage your garden such as wireworms, white grubs, mole crickets and sweet potato weevils. Most of these soil insects will need to be controlled with a preplant application of an approved granular insecticide. Baits are also effective for control of cutworms and mole crickets.

Insecticidal soaps and oils can be quite effective for sucking insects such as aphids, scales, mealybugs and whiteflies. Botanical biopesticides such as neem, pyrethrin, rotenone, ryania and sabadilla have relatively good insecticidal efficacy and can be used in the home garden. Microbial pesticides such as B.t., also called Thuricide and Dipel, have good activity against caterpillars, particularly diamondback caterpillars and cabbage loopers, which attack cole crops like cabbage and broccoli. It is important to use B.t. when the caterpillars are small, so scout the garden often for insects.

Hand-picking insect pests is a surprisingly effective method of control. It is an effective way to control bean beetles, cabbage worms, tomato hornworms, squash bugs, cucumber beetles, harlequin bugs and Colorado potato

beetle. Many of these insects are on the undersides of leaves. You can easily crush egg masses and clusters of newly hatched insects on the leaves by squeezing or rubbing them between your thumb and forefinger. Bean beetles and potato beetles drop readily when disturbed and can be collected more quickly in a wide mouthed jar.

Of course there are a number of synthetic insecticides which are labeled for insect control in the home garden. Sevin (carabyl) is a common insecticide which gives good control of leaf feeding beetles, some caterpillars and grasshoppers. Bifenthrin, which has been used for years in lawns for control of chinch bugs, can now be used in home vegetables for control of a variety of insects. Ortho has it labeled under the name of Ortho Max Lawn and Garden Insect Killer.

**Garden diseases** - Diseases of vegetable plants are caused by many kinds of invasive organisms, such as bacteria, fungi and viruses. There are various diseases of roots and stems including damping-off, root rot, Southern blight, Sclerotinia and wilts.

Diseases of leaves include fungal spots (usually somewhat rounded), bacterial spots (the spot is more angular compared with a fungal spot), mosaics (caused by viruses), blights (usually a fungus which kills large areas of leaves and stems), rusts (a reddish blister develops within a yellow or green spot on the leaves), downy mildew (occurs mainly on crucifers and cucurbits (shows up as light spots which are paper thin), and powdery mildew which occurs on legumes, cucurbits and okra as a white powdery substance.

Diseases of fruit include soft rot (fruit become mushy with a bad smell), soil rot (affect fruit which touches the ground or is splashed onto the fruit - tomatoes develop target-like rotten spot), wet rot or blossom blight (common on

legumes, okra, pepper and squash - fruit rot from the flower end), blossom-end rot (affects many vegetables especially cucurbits, peppers and tomatoes - caused by a variation in soil moisture and too little calcium in the soil) and sunscald (results from plant losing leaves which exposes fruit to sun).

Many foliar diseases on various vegetables can be controlled with regular applications of foliar fungicides such as copper sulfate or daconil. However there are many other disease related problems such as root rots, damping-off, wilts, and virus mosaics which are not relieved by the use of fungicides.

There are a number of alternatives to fungicides: use disease resistant varieties, use seed from disease free plants, select disease free plants, spade garden early to give vegetation time to rot, use mulch to prevent soil rots, clean up crop refuse early, plant early in the spring, eliminate disease harboring weeds, water in the morning, use trickle irrigation, dispose of diseased plants, rotate garden or crops, control disease spreading insects, use clean potting soil or bake in oven for 60 to 90 minutes at 180 degrees F. and solarize the soil.

## **PLANT SELECTION FOR A FLORIDA-FRIENDLY YARD**

**by Anne Yasalonis - Florida Yards and Neighborhoods Coordinator**

Choosing plants can be a fun part of landscaping. There are so many plants at the nursery that would make great additions to any landscape. But how can you make sure that you are choosing the right plant for your yard? Use the following guidelines to ensure that you have low maintenance and a beautiful yard.

### **1. Focus on Low Maintenance.**

Look for plants that require little or no

fertilizer, pesticides, pruning and water. These plants will not require endless hours of maintenance and leave you time to enjoy your yard.



### **2. Water Matters.**

**C h o o s e d r o u g h t - t o l e r a n t p l a n t s t h a t a r e w e l l s u i t e d f o r y o u r**



yard. If you have sandy soil, make sure you choose tough plants that won't require irrigation once they are established. Look for native plants that are adapted to Florida's environmental conditions.

### **3. Watching Wildlife.**

Plants that attract birds and butterflies make your landscape a more enjoyable place. These plants are often low maintenance and easy to care for.

### **4. Plant for Impact.**

Limit the use of high-maintenance plants. If you like the look of a high-maintenance plant, choose to use it as a specimen instead of a mass planting. This will limit the time and money you spend maintaining it.

### **5. Avoid Invasive Exotics.**

Make sure you are not choosing invasive plants for your landscape. These noxious species crowd out our native plants. For a list of Florida's invasive plants go to <http://plants.ifas.ufl.edu/assessment.html>.

### **6. Diversity is Key.**

A diverse landscape will make your landscape visually appealing and also reduce the risk of disease and insect infestations that

monocultures are subject to.

#### 7. Minimize Grass.

Use turf only where you need it—play areas, dog runs, etc. Choose the right variety for your yard and make sure your mower can easily maneuver around plant beds.

#### 8. Cope with Slope.

Erosion can be a problem. Combat this by using groundcovers on areas where runoff can occur.

#### 9. Don't be Fooled by Quick Fixes.

Fast growing plants can be tempting, but with the excessive growth comes problems. More pruning will create more waste and often slow-growing trees live longer than fast-growing ones.

#### 10. Easy Upkeep.

Make sure that when you are installing plants or making changes to your landscape that you think about maintenance. It is hard to mow grass on a steep slope and difficult to prune shrubs if they are not accessible from all sides.

For more tips on plant selection, contact the Polk County Extension Service Florida Yards and Neighborhoods Program at <http://polkfyn.ifas.ufl.edu>.

### MISC. SEPTEMBER GARDENING

**Vegetable gardening** - Your fall vegetable garden should be tilled and ready to go. September planting includes lima beans, snap beans, corn, cucumber, eggplant, pepper, southern peas, rhubarb, squash and tomato. As the end of the month approaches plant broccoli, cabbage, celery, collards, endive, lettuce,

mustard, onions, radishes, strawberries and turnips.

**Herbs to be planted** - Anise, basil, bay laurel, borage, chives, coriander, dill, lemon balm, lavender, Mexican tarragon, mint, parsley, rosemary, sage, sweet fennel, sweet marjoram and thyme.

**Flowers to be planted** - Ageratum, angelonia, begonia, blue daze, butterfly weed, cat's whiskers, celosia, cleome, coleus, coreopsis, cosmos, garden mums, gaura, gazania, gerbera, goldenrod, gomphrena, heliotrope, impatiens, jacobinia, lantana, marigold, melampodium, nicotiana, pentas, periwinkle, ruellia, salvia, sunflower, sweet alyssum, torenia, verbena and zinnia.

**Citrus** - Make your last application of fertilizer at the end of September or the first of October. Use a 6-6-6 or 8-8-8 citrus fertilizer at a rate of 1 pound for each year of age, up to 8 years old. In other words, a 6 year old tree would receive 6 pounds, while a 10 year old tree would receive 8 pounds. Spread the fertilizer evenly under the drip of the tree and possibly outside the drip line a few feet.

**Citrus leaf miner** - This is one of the most common pests on citrus trees and one that creates the most questions. The adult is a tiny little moth that lays its eggs on the leaf surface. The egg hatches and the caterpillar bores into the leaf and feeds between the upper and lower leaf surface leaving a trail across the leaf that often look like the trail of a snail. The leaves become distorted and look terrible, however they usually stay on the tree and continue to photosynthesize. This pest is usually not a serious problem, unless the tree is very young. About the only thing that can be done is to spray each new flush of growth every week for about 3-4 weeks with a horticultural oil such as Ultrafine.

**Citrus greening** - This bacterial disease of citrus which is transmitted by an insect, the Asian Psyllid, is present in Central Florida citrus as well as Polk County. Still not much in the way of answers to control this pest and disease. Researchers have made control of this disease a top priority. The disease has the potential to ruin the fruit in two years and kill the tree in seven or eight years.

**Phytoplasma disease in cabbage palms** - These organisms called phytoplasmas are transmitted by a leafhopper. Without treatment this disease will kill several species of palms, including coconut palms and date palms. A new strain, called Texas Phoenix Palm Disease, has now been found in our native tree - the cabbage palm. It has not officially been found in cabbage palms in Polk County, but has killed numerous cabbage palms in Hillsborough County. This disease has been found in numerous date palms and Washingtonia palms in Lakeland. The only way to prevent this disease is with regular injections of tetracycline antibiotic.

**Poinsettias** - Do not do any more pruning after September 10<sup>th</sup>, because it may interfere with flowering. Poinsettias usually set buds soon after October 10<sup>th</sup>.

**Soil testing for pH** - The Master Gardeners, here at the Extension Office, will test your soil for pH for a \$3.00 fee. These tests are conducted every Thursday.

**Mulch** - The Master Gardeners have a fresh supply of melaleuca mulch. I'm sorry to have to tell you that the price has gone up to \$3.25 a bag.

**Bird baths** - If you have bird baths in your landscape, make sure that you keep them clean. A number of avian diseases can be found in unclean bird baths.

**Irrigation system** - As we approach fall and dryer weather in winter months, September is a good month to check out the irrigation system. Learn how to run the controller, so you can operate it manually. Calibrate the system, so you know how much water you are applying. Check for broken



sprinkler heads or lines. Make adjustments to sprinkler heads where necessary (don't irrigate the road). Water is becoming expensive and promises to become more expensive, so it is going to pay you to use it efficiently.

Have a good gardening day,

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