UF UNIVERSITY of FLORIDA IFAS Extension

Volusia County FLORIDA

Backyard Gardener

VOLUSISA COUNTY EXTENSION JUNE 2013

IN THIS ISSUE

MASTER GARDENER

UF UNIVERSITY of FLORIDA IFAS Extension

Hydroponics at Home – Growing Edible Crops When and Where You Thought You Couldn't

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At the UF/IFAS Volusia County Extension Office, people are now learning to grow crops such as peaches, nectarines and plums; blueberries, strawberries and grapes; herbs, many kinds of peppers, many kinds of squash and much more.

Not only are people learning to grow a variety of edible crops, they are learning how to grow them in different ways that will help them overcome weeds, diseases, poor soils, insects and will help save water. By working with the University of Florida, IFAS County Extension Service farmers and homeowners alike are learning to grow crops in alternative, non-traditional ways. These research and demonstration projects help stakeholders become more productive, profitable and help save natural resources. By finding ways to grow fruits and vegetables by using fewer herbicides, fungicides and insecticides, our food is safer and less expensive to grow in most cases.

This is not only important for the farmer or commercial producer; homeowners too want to know how to grow fruits and vegetables in ways that are safer, easier and more productive.

Soon, at the UF/ IFAS Volusia County Extension Office, in Deland, you will see many examples of alternative and sustainable agriculture that are being used by area producers. In turn, we are investigating ways to make these alternative growing systems available (in smaller scale, of course) to homeowners.

Many folks face challenges to growing at least a portion of their own food at home. Limitations such as space, poor soils, homeowner association restrictions and aesthetics often preclude growing edible crops at home. Alternative ways of growing can certainly help.

1. **Colored, plastic mulches** – Area farmers are using plastic mulch with on side that is either white or silver-colored

mulch. These mulches seem to have beneficial effects upon insect populations thus reducing the use of pesticides. Also, by reflecting the sun's rays, they keep the soil cooler. They also help preserve soil moisture thereby reducing water use. Diseases also seem to be reduced. These products are available through many seed catalogues and some area retailers.

2. **Paper mulches** – For many years, people have been using recycled newspapers as mulch. Now, there are long rolls of unprinted and unbleached paper that can be placed on the ground, prior to planting. You simply cut a hole where you will be planting your vegetables and then, cover it with s little soil or mulch. As with plastic mulch, this reduces weeds and preserves soil moisture. Also, you can use low-volume irrigation (with the plastic mulches too) under the paper mulch. The paper will decompose, naturally, unlike the plastic mulches.

3. **Raised beds using plastic "troughs"**- These "troughs" come in rolls that are cut to length, filled with either soil or soilless media and create a clean, easy-to-maintain raised garden. These can be quite useful for those with poor soil conditions, poor drainage or limited space. Since a lot of plants are planted in a relatively small space, productivity can be high and weeds are minimized. By employing low-volume (drip) irrigation, water use is much more efficient.

4. **Hydroponics** – Many people think that hydroponics is expensive and takes a lot of technical expertise. While there are such systems, we will be demonstrating a number of different hydroponic systems that are inexpensive, easy to build and quite productive. Right now we are growing herbs, peppers, tomatoes, cole crops, beets, lettuce spinach, eggplant, onions, carrots and much more – HYDROPONICALLY! Since these are all in various kinds of containers, there are no weeds and far fewer insects and diseases. Harvesting is easier, the produce is cleaner and water use (even though it's hydroponic) is reduced. These systems can even be automated (water and fertilizer delivery) to save even more time. You can even grow leafy vegetables, hydroponically, in a kiddies' pool!

We have a lot of information on these various systems available at the UF, IFAS Volusia County Extension Office. We are learning more about alternative production systems every day. Part of my job, as I see it, is to help homeowners and smaller growers find ways of incorporating these growing systems into their own, edible, home landscapes. By growing edible crops at home we increase food security, have more productive and sustainable landscape, reduce water use, reduce food bills and have fun doing it. I need to mention, these methods can also be incorporated into gated communities, church and community gardens as well. They work! They are productive and can greatly reduce the amount of work and pesticides needed, at times, with traditional agriculture. They may be a bit of an investment at first but, in the long run, by saving time and money spent on pesticides and cultivating etc, I feel that they will save a lot in the long-run.

We will be scheduling more classes on alternative growing systems at the UF, IFAS Volusia County Extension Office this year. Keep your eyes and ears open! For more information on the various systems available call or stop by the UF/IFAS Volusia County Extension Office. We are at 3100 E. New York Ave., Deland, Fl. 32724. Phone: 386-822-5778. You can also find us on the internet at: http://volusia.org/horticulture or, e-mail me at sewards@ufl.edu

Leafing Through The Pages

Bringing Nature Home: How you can sustain wildlife with native plants
Douglas W. Tallamy
2009
358 pages
Timber Press
$17.95

Volusia County Public Library call number:
639.92 Tal

As master gardeners we put our faith in the power of native plants. But why?

In Bringing Nature Home, Dr. Douglas Tallamy, Professor and Chair of Entomology and Wildlife Ecology at the University of Delaware, has the answers and persuasively guides the reader with arguments substantiated with academic research. Along with his scientific background, Tallamy has created a living laboratory on his home property. As he has worked to remove the aliens and introduce natives he has recorded the results of his efforts, successes and setbacks.

Knowing that most people are attracted to butterflies Tallamy uses these as indicators of a habitat's health to illustrate his thesis. He traces the food available to butterflies and moths throughout their lifecycles from native plants versus alien ornamentals. Planting for nectar production won't provide the host plants necessary for the larval state. Native birds eat insects that eat the foliage. Native foliage is the food of choice for native insects.

Once he's enchanted us with butterflies, he moves on to beetles and spiders and flies with such enthusiasm that I found myself peering closely at whatever crawled by.

Mindful that native can be synonymous with unkempt to community associations and code enforcers, the chapter "Blending in with the Neighbors" offers suggestions and landscaping principles that minimize wilderness.

Make no mistake, this is the work of a scholar. He's not afraid to use terms like "Lepidopterans" and "trophic levels" in his descriptions. Every plant and insect has Latin as well as common names cited. Yet it's an easy and entertaining read.

The author's photographs of flora and fauna are exquisite. Whether it's a sterile suburban landscape or an inchworm parasitized by flies and wasps, the photographs illustrate details that enhance the text.

While planting natives is a good first step, a monoculture planting can cause its own problems even if those plants are indigenous. Diversity is the way to go in the garden and the neighborhood.

There are three appendices in the book. The first has lists of native plants by US region. Florida is part of the Southeast region, along with states as far north as North Carolina and west to Arkansas. So don't expect to find coonties or palms listed. But there are plenty to pick from that are happy in our zone.

Appendix two lists host plants of butterflies and moths, less extensive than the spreadsheets on Dr.Tallamy's web site.

Three pages of experimental evidence about insects and plants comprise the final appendix.

Befitting an academician, there are 10 pages of references plus a detailed index.

Just like your financial portfolio, the take home message is: Diversify and keep the foundation solid.

Laura Rocco

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What Makes Them Tick – A Little Biology

I am constantly amazed at the sophistication and complexity of what, at first glance; appear to be small simple creatures. Honey bees are certainly no exception. Fascinating is may be a better word.

Their flight mechanism is quite 'clever' in its operation. Bees, being true insects, have an exoskeleton. That is, a crunchy outer shell. The bee's wings are attached to the exoskeleton of the thorax (middle section). The wing muscles, also located in the thorax, are attached to the inside of the exoskeleton not to the wings. When the wing muscles flex and relax they bend and warp the exoskeleton. The flexing of the exoskeleton is what causes the wings to move and the bee to fly. Like almost all winged insects bees actually have four wings though it appears they only have two. The reason is that each wing in the pair is attached to the other. The attachment is accomplished by a hook and loop like mechanism called the hamuli. Because the wings are attached they move in unison with each other and provide efficient lift.

Bee Photos by David Cappaert, Michigan State University, Bugwood.org

Bees do have a heart and their circulatory system is open. This means they do not have veins and arteries as we have. Their hemolymph (blood) circulates freely throughout their bodies. The four chambered heart pumps hemolymph through the aorta to the head and from there it just flows around the spaces in the rest of the body eventually making it back to the heart. Bee hemolymph carries vitamins, minerals, hormones and other chemicals. However, unlike our blood it carries no oxygen. Bee blood has no iron to hold the oxygen and without the iron is not red. The heart of a bee is located in the abdomen not in the thorax as may be expected.

Lungs are also nonexistent in bees. They do not even breathe through their mouths. There are holes in the exoskeleton called spiracles through which the bees breathe. Attached to the spiracles are the air sacs. The air sacs are attached to tracheae which branch into tracheoles which are very small. Each living cell in the bee's body has a tracheal tube touching it which is how the cells get their oxygen. Carbon dioxide follows the opposite path to leave the bee's body. It is the body movement of the bee that drives the respiration in and out. There is no equivalent to our diaphragm.

This is only the beginning of basic bee biology which we will investigate further in another issue. Topics to investigate: include digestion, glandular system, sensory organs and reproduction. Tiny with apparently simple construction but incredibly complex behavior honey bees amaze me. The more I know the more amazing it all seems. We live on a great planet.

Ed Williams

PRETTY PEANUTS

I was introduced to the ornamental peanut plant (*Arachis glabrata*) when I was looking for a ground cover to plant by our seawall. A local garden center suggested it.

I checked references. IFAS and only one southern gardening book had any information t that I could find about it.

This ground cover, a legume (which fixes its own nitrogen), will grow in partial shade, slightly acidic soil and will die back after frost, is supposedly salt tolerant references said. Mine could not handle the sea spray and the hot sun. It did not grow and finally died. I was disappointed.

I was reintroduced to the plant again the next spring when I saw a beautiful median in bloom with yellow, sweet pea like blooms on Dunlawton Avenue in Port Orange in the median. I saw it again at Port Orange Public Library; in medians in Palm Coast and an entire lawn at the Orange City Library. Much to my surprise, it was planted at a rest stop on I-4.

This delightful ground cover prefers sun but it will grow in partial shade. Where there is little foot traffic it can be a usable substitute for turf and requires far less water and maintenance though you will find it thinner and not as sturdy as grass. Until it is established it is important to water it to control competition from weeds.

If you missed the pretty blooms, it probably was mowed when it reached 3" to stimulate new growth and flowering to keep the edge in bounds. It spreads about 6' per year but is not considered invasive. You can mow it every 3 or 4 weeks.

Look for it, it is really pretty.

Marty Borkosky

July and August Calendar of Public Events

NAME	START DATE	LOCATION
Vegetable Gardening	7/10/13	Daytona Beach Library
Basic Lawn Care	7/11/13	Hacienda Garden Club, Edgewater
Sugar Mill Garden Q&A	7/17/13	Sugar Mill Garden, Port Orange
Butterfly Gardening	7/25/13	Debary Historic Hall
Muscadine Grapes for the Central Florida Garden	7/27/13	Seville Resource Center 1591 N. Highway 17 – Seville, FL 32190
NSB library series	8/5/13	New Smyrna Beach Library
Operating and maintaining your irrigation system	8/8/13	Debary Historic Hall
Sugar Mill Garden Q&A	8/21/13	Sugar Mill Garden, Port Orange
Herbs and Culture	8/22/13	Debary Historic Hall
Fall Vegetable Gardening	8/24/13	Volusia County Agricutural Center

For more details Master Gardeners should check the VMS calendar.
The general public may contact the Volusia County Agricultural Center.

Volusia County Agricultural Center
3151 E. New York Ave. (S.R. 44),
Deland, FL 32724
West Volusia… 386-822-5778 **Daytona Beach…** 386-257-6012 **New Smyrna Beach…** 386-423-3368

Alluadia procera

Family: Didiereaceae
Genus: *Alluaudia* (al-loo-WAH-dee-uh)
Species: *procera* (PRO-ker-uh)

Alluaudia procera is succulent tree from southwest Madagascar, the thorns are very similar to that of a crown of thorns, but the leaves differ in size and shape. Young *Alluaudias* form a tangle of stout, whitish grey stems or more correctly, basal branches with small thin round leaves between grey spines. At a certain age or maturity a branch will grow upright and form the main trunk and the lower branches will eventually die off leaving branches higher up on the main trunk forming an unusual succulent tree. *Alluaudia procera* must be at least 10 Ft tall to bloom with small greenish-yellow flowers but, plants in cultivation rarely bloom. *Alluaudia procera* is deciduous in the winter and requires little water. In its natural habitat of Madagascar the plant only becomes deciduous during drought. When young care must be taken to protect from cold but as the plant mature they can withstand temperatures to the low 20's F. In Madagascar this plant can grow 60 Ft tall but when grown in California the average is 25Ft, and if grown indoors 6Ft.

Alluaudia procera should be planted in full sun or a location where it will receive 5 to 6 hours of sun a day. You can propagate from stem cutting or seed, if you can locate. Stem cutting is more common but allow the cutting to dry 24 hours before planting.

In Madagascar, the wood of the plant is used for building and charcoal. Of interest the native primate, the lemur, will leap from spiny stem to spiny stem without harm. The spines can be almost 1/4inch in length.

Alluadia procera is many times referred to as Madagascar Ocotillo. This has caused confusion in the past as the North American Coach Whip or Ocotillo (*Fouquieria splendens*) has similarities to the immature *Alluaudia procera*. Since both plants are from opposite parts of the world and in different families, Didiereaceae (*Alluadia procera*), Fouquieriacea (*Fouquieria splendens*) this is an example of convergent evolution.

I have an *Alluaudia* in my collection. It was propagated from a stem cutting. At first I planted it in a small pot with good drainage and during the hot months I watered it regularly. Although my plant is not in full sun it does get 5-6 hours of sun daily with liberal salty spray from irrigation. Over the years it has grown and changed pots many times. It has developed a central trunk and its age is about 5years . My plant is deciduous in late winter but a friend who has also has an *Alluaudia* of the same age kept all its leaves. Both her plant and mine were propagated from stem cuttings from the same plant. Her plant grows in filtered shade with short time periods of sun all year and she keeps it fairly dry. So what this suggests is that this plant adapts to change .In other words a fairly easy plant to propagate and grow.

Myrna Moore

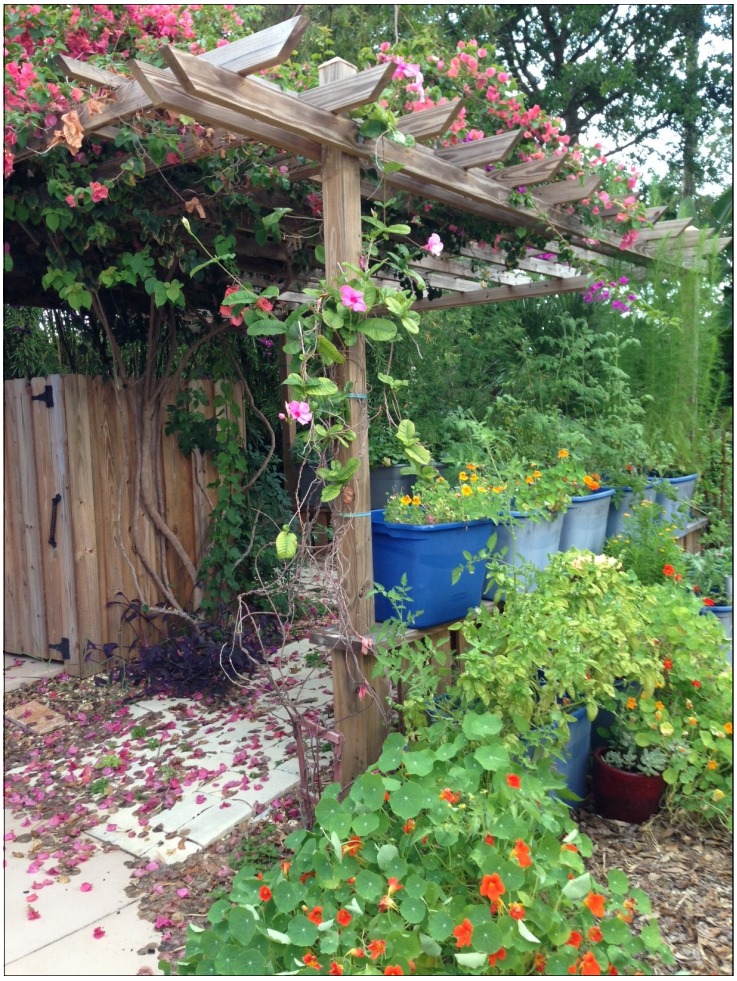
Family Photo Album

My Garden—Myrna Moore

Puu Kahia (Plumeria cultivar) — Kathryn Kovach

Hong Kong (Plumeria cultivar— Kathryn Kovach

Family Photo Album



Grow Box Vegetables
Lisa Brooks

Tiger Swallowtail Butterfly On Clerodendrum
Margarita Walker

Double Red Amaryllis and Coleus
Margarita Walker

Recipes From The Garden

Curried Butternut Squash Soup

1 Medium onion chopped
3 Tbs. Butter
2 tsp. Curry Powder (I use madras curry which is mild)
2 tsp, Fresh Ginger grated
1/2 tsp. Salt
1 1/2 lb. Butternut Squash peeled, seeded and cut into 1 inch cubes… 4 cups
14 oz. Chicken Broth
1 1/4 cups water
1 14 oz. can coconut milk
1/2 cup light cream/half&half

Cook onion in butter for about 10 minutes, until tender and translucent. Stir in curry powder, ginger and salt. Cook 30 seconds more. Stir in chicken broth and water and bring to boil. Add squash and simmer 40 minutes or until tender. Remove from heat and let cool a bit. Blend with hand blender. Add coconut milk and cream. Heat through.

Bisquick Cobbler

2 Tbs. Butter
1 Cup Bisquick
1/2 Cup Sugar
1/2 Cup Milk
3 Cups cut up peaches or other fruit of your choice. May be fresh, frozen (thawed) or canned. Fresh fruit works best. Canned or frozen fruit may make the cobbler a little soggy

Preheat oven to 375 degrees. Melt 2 tablespoons butter in 8x8 inch baking dish. Mix Bisquick, sugar and milk and pour over melted butter. Spoon fruit on top. If using canned peaches pour in some of the juice. Back for 30 minutes. Recipe may be doubled in 9x13 inch pan.

These recipes courtesy of Joyce Velba.

Can You Name This?

Answers on Page 10

A Shady Character

Wild Coffee while not appropriate for making the beverage is a plant that is a nectar source for butterflies and food source for many birds. For the botanists out there Wild Coffee's scientific name is *Psychotria nervosa*. This is the shiny leaf variety there is a dull leaf species also.

This plant is recommended for partially sunny areas but does well in heavy shade. Full sun is not a good location for Wild Coffee. It is moderately drought tolerant and will survive cold weather. My experience is that it is a slow grower in full shade but remains very healthy. Its hardiness zones are 10b to 11 and sometimes it freezes back in the winter here in zone 9. However, has always come back. Some sources list it in zones 9—11.

Wild Coffee has an inflorescence of white blooms that last for quite some time. After flowering it develops red berries that many birds like. The leaves are smooth, dark green and shiny. It can grow to 10 feet but here in my shade area it has remained as a small bush about 2 feet high.

Ed Williams

Answers!
Can You Name This?

Leaf Legged Bug…
Acanthocephala terminalis
Ventral view
Jean referenced this in an email.

Golden Dewberry… ***Duranta erecta***