



Agri-link

Upcoming Seminars and workshops

- Introduction to Bee-keeping; July 27– August 17, 2007
- 2nd Annual Urban Pond Management Seminar, September 20, 2007

For registration details, call Letha at 239-461-7514

Issue 5
July-Sep 07

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Growing A Fuel Crop in Lee County - Almost a Reality



Jatropha curcas (Physic Nut)

The idea of farmers growing non-edible crops to produce fuel is not a novel one. In developing countries across the world, trees and shrubs are exploited for their uses to make firewood and wood coal. In Florida, early settlers used the berries of the native Wax Myrtle to make candles for their homes.

Various plants show enormous potential beyond these primary uses. One such plant showing potential as an oil fuel producer for Southwest Florida conditions is *Jatropha curcas*.

Jatropha curcas

Jatropha curcas or Physic Nut as it is commonly called, is a small tree or shrub with a smooth gray bark which ex-

udes a white latex when cut. The average height of the tree is around twelve feet, but can grow much taller under very favorable conditions.

The plant produces fruits mainly in the coolest months of the year when the tree is leafless, but may produce more than two fruitings if soil moisture is good and temperatures are high enough. The inflorescence yields a bunch of ten or more ovoid fruits each around the size of a golf ball. Inside each fruit, three pebble-sized seeds develop which at maturity, have the potential of producing 40% of its weight in a



Fruits of *Jatropha curcas*

non-edible oil highly valued for its use as an alternative to petrol diesel.

To put this in context, one

acre of land planted in *Jatropha curcas* has the potential of yielding 600 to 1,000 gallons of oil per year. The closest rivals, most of which would be difficult and more costly to produce, have shown yields of less than half that of *Jatropha curcas*. This shows the desirability of this plant which holds the greatest potential in Southwest Florida conditions as an alternative fuel crop. The tree can live up to thirty years or more, having the capacity to yield its maximum for most of those years beginning in the second year of growth.

Other Positives

Along with these positives associated with the crop, *Jatropha curcas* is easy to establish, grows quickly and is very hardy. It is not browsed by animals, lends itself to plantation or grove cultivation, and like all other trees, it removes carbon from the atmosphere, stores it in its woody tissues and assists in the build-up of soil carbon. This makes *Jatropha curcas* not only oil producing but environmentally

FROM THE AGENT'S DESK...



Roy Beckford—Ag & Natural Resources Agent

Dear Reader, These are truly interesting times in the agricultural sector in our county. As urbanization encroaches on rural lands and prices rise, large farms are becoming a thing of the past. Interestingly, these influences are not shutting down opportunities; rather, landowners recognize new opportunities to embark on small farming projects that yield reasonable income. At the same time, lands which have previously remained outside of agriculture are being seen as potential areas for the propagation of fuel crops. Whether farming as a hobby or business, our office is eager and ready to work with you. Please give us a call.

Sincerely, Roy.

Growing A Fuel Crop – continued

friendly. These properties make it the ideal replacement plant once invasive plant species such as Brazilian Pepper and Melaleuca are removed from our South Florida landscape. To summarize its benefits, Jatropha curcas offers the following as potential business lines associated with its investment. These can be categorized as having either an environmental, ecological or economic impact.

- 1. Environmentally friendly plantations or groves
2. Sale of seeds to potential growers
3. Extraction of seed oil for sale to buyers
4. Processing of pressed seed cake to get bio-gas and bio-fertilizer
5. Use of the by-product glycerin in the pharmaceutical

industry or as the raw material in energy cells
6. Manufacture of bio-diesel

and agricultural activity will provide the basis upon which a viable local fuel farm operation can be built.

Benefits to Farmers

Considering at least one of the incentives being offered by the Federal Government, local farmers and landowners stand to gain from investments in farm-based fuels. The American Jobs Creation Act of 2004 created tax incentives of \$1.00 per gallon of agri-biodiesel produced, and this can go a far way to offset start-up and other variable costs involved in plant propagation and fuel production. There are also several State grants and incentives available to producers, and county tax exemptions (Greenbelt) on qualified land

How to Get Involved?

Landowners with an interest in fuel farming should contact the University of Florida, IFAS Lee County Extension Service (239-461-7512 or 239-461-7535) to learn more about investing in Jatropha oil production. One private investor is already resident in Lee County and is eager to broker agreements with landowners. In fact, there are farmers in Lee county who are almost ready to put seedlings in the ground. It is an imminent reality that fuel farming will take root on a farm or parcel of land near you. We are closer than ever before to realize that dream.

The Benefits of Honey Bees to Food and Agriculture

Honey bees are not native to America, but most of our crops are not natives either. Honey bees originated in Asia, and both the European and African Honey bees are 'off-springs' of these.

The docile European honey bees were shipped from Britain in 1621. Their arrival coincided with the importation of various non-native crops which we have come to be dependent upon for food. Both crops and honey bees are now essential parts of our modern agricultural system. Many of the crops we produce would bear little or no fruits without the presence of bees for pollination. Honey bees gather pollen and nectar from flowers to make honey. As they do this, they move from flower to flower, usually of the same species of plants. This guarantees the transfer of

pollen between flowers, and thus fertilization occurs and fruits are made.

Here is a list of some of the important benefits of honey bees to the agricultural and food industries.

1/3 of the foods you eat directly or indirectly depend on pollination by honey bees. The indirect benefit of honey bee pollination includes seed production in livestock feed crops such as alfalfa and clover. Pollination increases the yield of these seeds by as much as 5 times.

The value of honey bees pollination to agriculture in the United States is more than \$14 billion each year. Vegetable crops such as cucumber, cantaloupe and pumpkin; and others like apple, cranberry and sunflower all require pollination by honey bees.

\$150 million worth of raw honey is produced in the U.S. each year. For fruit and nut crops, pollinators can be a grower's only real chance to increase yield. The extent of pollination by bees determine the maximum number of fruits.

Citrus farmers in Florida contract with migratory beekeepers who move millions of bee hives to fields each year just as crops begin to flower. Because of these benefits, and due to negative factors affecting European Honey bees, beekeeping is becoming a very lucrative profession. Modern humans cannot exist without honey bees, because if bees disappear, we will have to quickly find other food sources which require no pollination, or we will have to find a pollinator as effective as the humble honey bees we often take for granted.

Farmers' Safety Box

Africanized Bees



Summer is the time of year when Africanized Bees swarm throughout Florida. Here are some tips to become aware of their presence; and some responsible actions to take if these bees are encountered.

- 1. Inspect your home or farm twice a week.
2. Listen for persistent buzzing.
3. Call a bee remover to handle and remove nests or swarms.
4. In case of an attack, run away covering your face and seek shelter.

Understanding Florida's Snakes—the Scarlet king Snake



Rattlesnake, Copperhead, and Cottonmouth) and the Coral Snake.

There are 39 species in Florida that are harmless, non-venomous and actually provide a beneficial service by control-

Florida is home to 45 species of native snakes, six of which are venomous. The venomous species include five pit vipers (Eastern Diamond-backed Rattlesnake, Timber Rattlesnake, Pygmy

ling many vertebrate and invertebrate pests.

One such snake, which resembles the venomous Coral Snake, is the Scarlet King Snake. It is differentiated from the Coral Snake be-

cause the red bands on it's body touch only black bands, while in Coral Snakes the red bands only touch yellow bands. Remember the stoplight phrase "yellow, red, STOP!" **If the red and yellow bands are next to each other, like the colors of a stoplight, it is a Coral Snake.**

All King Snakes eat other snakes including poisonous ones; they are immune to their venom. King snakes are constrictors, and use their bodies to wrap around and suffocate their food. King

snakes will also eat birds, lizards and rodents.

Scarlet King Snakes are reluctant to bite and are mostly found beneath rocks, inside logs and under the bark of dead standing trees.

Adults are about 20 inches long and infants are small, measuring only about 3 or 4 inches in length.

Find out more about Florida snakes at the 'Online Guide to Snakes of Florida'

Understanding Pasture Grasses - Summer and Winter Grazing

Summer Perennials - Bahiagrass

Bahiagrass is used often as warm-season perennial forage grass in Florida for both pasture and hay. It tolerates lower fertility soils and overgrazing well and has a longer growing season than bermudagrass (April through October). That makes it a popular option for many cattle and horse pastures. Bahiagrass spreads through long rhizomes and forms a thick sod that helps it tolerate high stocking densities. Like all warm-season

grasses, bahiagrass pastures need to be kept short (4 to 6") to avoid losing their nutritional quality.

Bahiagrass is propagated from seed in March or April, and there are four important varieties available—Tifton 9 Pensacola, Pensacola, Argentine and Paraguay 22. Tifton 9 appears to have significant yield advantages over both Pensacola and Argentine bahiagrass.

While bahiagrass will tolerate low fertility conditions better than bermudagrass, it is very responsive to nitro-

gen fertilizer and will produce better when you provide adequate levels of fertility.

Winter Annuals — Annual Ryegrass

During Florida's dry winter months it is advisable to provide a source of nutrients when cows have given birth and the nutrient levels in bahiagrass is on the decline. Annual Ryegrass is very tasty to cattle and horses and provides high quality forage from November through May. In most situations you

can broadcast the seed or drill it into existing bahiagrass sod in September and October. Grazing down or clipping summer growth in the fall and lightly harrowing the ground will let the annual ryegrass seed germinate.

A note of caution here is that overseeding warm-season sods like bahiagrass can fail due to inadequate soil moisture. Plant your ryegrass only after excess bahiagrass has been removed and when there is enough moisture in the soil to aid germination.

It's the Rainy Season, and its Frog and Toad Time!



Frogs don't get credit for being the helpful neighbors most of them really are. They eat insects - including mosquitoes - plus they are

critical components of the ecosystem. In addition, they are a source of food for a whole variety of animals, from fish that eat tadpoles to owls and hawks that eat larger frogs.

While many native toads excrete mild toxins, only the imported giant cane toad (*Bufo marinus*) is dangerous. Giant toads can grow to be more than nine inches long and weigh more than three

pounds. *Bufo* toxins can be absorbed through skin but they're most likely to cause harm to small pets.

Toads are easily captured because they're large and slow but they can be fatal to dogs and cats. Along with profuse, frothy drooling, symptoms of toad poisoning include vigorous head shaking, pawing at the mouth, continuous attempts to vomit, lack of coordination and stag-

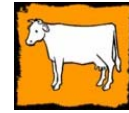
gering.

Giant toads are most likely to be found near water bodies and typically don't leave an aquatic environment except during the summer rainy season. They'll eat almost anything, so leaving pet food or water outside may attract them.

To identify frog and toad species, and to learn more about them, **visit the UF Wildlife Extension Website.**



FARM JOKE



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Dead Fish

Little Timmy was in the vegetable garden filling in a hole when his elderly neighbor peered over the fence. Interested in what the cheeky-faced youngster was up to, he politely asked, "What are you doing there, Timmy?"

Despite the physical activity in which he was involved, little Timmy seemed obviously distraught. "My goldfish died," replied the boy tearfully, scowling at the older gentleman, "And I've just buried him in this hole in the ground."

The neighbor was concerned. "That's an awfully big hole for a goldfish, isn't it?"

Timmy patted down the last heap of earth with his shovel, stood up and replied loudly, "That's because he's inside your cat!"

'Solutions for Your Life'

Click into our Website!

<http://lee.ifas.ufl.edu/>



Meet Our New Staff

Two members of Staff have joined the Agriculture/Natural Resources team this summer.



Martha Avila -
Sustainability Specialist.
Expertise - Alternative energy.
Contact: 239-461-7535.



Devin Iseneker -
Summer Intern.
Expertise—Animal Science Major.
Contact: 239-461-7528



Extension Impact

Continuing its outreach and education on Africanized Honey Bee, Lee County Natural Resources Extension conducted a 3-day training seminar with firefighters of the North Fort Myers Fire Control District on June 13-15. Extension agent Roy Beckford and Summer intern Devin Iseneker conducted the training sessions. 41 firefighters attended over the 3 days.

The seminar presentations included general information about honey bees, the threat posed by aggressive Africanized colonies, and a discourse on Emergency Response Protocols required by first responders. Firefighters learned what equipment is necessary to enter the site of a stinging incident, how to stage the rescue effort, and how to protect the neighborhood during an Africanized Bee stinging incident.

Captain David Rice facilitated the training and provided an opportunity for the Extension Service to contribute to the language of the Standard Operations Guidelines (SOG) as it relates to Africanized Bees Emergency Response.

Assistant Chief Noble expressed thanks in a letter stating **“because of this training, our firefighters now have a basic understanding of honey bees in general and a working knowledge in preparedness, response, and rescue tactics for a potential Africanized Honey Bee emergency.”**



Presentation of Certificate to Captain Dave Rice

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