

FOREST STEWARDSHIP BRIEFINGS

Timber ♦ Wildlife ♦ Water Quality ♦ Soil Conservation ♦ Best Management Practices ♦ Recreation ♦ Aesthetics

NEW BIOFUEL DEVELOPED

A team of University of Georgia (UGA) researchers has developed a new biofuel derived from wood chips. Unlike previous fuels derived from wood, the new and still unnamed fuel can be blended with biodiesel and petroleum diesel to power conventional engines.

"It's going to take a while before this fuel is widely available. We've just started on developing a new technology that has a lot of promise. The exciting thing about our method is that it is very easy to do," said Tom Adams, director of the UGA Faculty of Engineering outreach service. "We expect to reduce the price of producing fuels from biomass dramatically with this technique."

Adams explained that scientists have long been able to derive oils from wood, but they had been unable to process it effectively or inexpensively so that it can be used in conventional engines.

Here's how the process works: Wood chips and pellets -- roughly a quarter inch in diameter and six-tenths of an inch long -- are heated in the absence of oxygen at a high temperature, a process known as pyrolysis. Up to a third of the dry weight of the wood becomes charcoal, while the rest becomes a gas.

Most of this gas is condensed into a liquid bio-oil and chemically treated. When the process is complete, about 34 percent of the bio-oil (or 15 to 17 percent of the dry weight of the wood) can be used to power engines.

The researchers have also set up test plots in Tifton, Georgia, to explore whether the charcoal that is produced when the fuel is made can be used as a fertilizer. Adams said that if the economics work for the charcoal fertilizer, the biofuel would actually be carbon negative.

"You're taking carbon out of the atmosphere when you grow a plant, and if you don't use all of that carbon and return some of it to the soil in an inert form, you're actually decreasing the amount of carbon dioxide in the atmosphere," Adams explained. "We're optimistic because in most types of soil, carbon char has very beneficial effects on the ecology of the soil, its productivity and its ability to maintain fertility."

Although the new biofuel has performed well, Adams said further tests are needed to assess its long-term impact on engines, its emissions characteristics and the best way to transport and store it.

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The researchers have developed a new chemical process, which they are working to patent, that inexpensively treats the oil so that it can be used in unmodified diesel engines or blended with biodiesel and petroleum diesel.

*by Sam Fahmy, science writer,
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For more information:

- <http://www.renewableenergyaccess.com/rea/news/story?id=48588>

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CHEVRON, TAMU AND BIOFUELS

from TimberBuySell.com, May 29, 2007

For more information:

- <http://www.timberbuysell.com/Community/DisplayNews.asp?id=973>
- <http://www.prnewswire.com/cgi-bin/stories.pl?ACCT=104&STORY=/www/story/05-29-2007/0004596944&EDATE=>

Chevron Corporation and the Texas A&M Agriculture and Engineering BioEnergy Alliance (Texas A&M BioEnergy Alliance) announced that they have entered into a strategic research agreement to accelerate the production and conversion of crops for manufacturing ethanol and other biofuels from cellulose.

Chevron Technology Ventures will support research initiatives over a four-year period through the Texas A&M BioEnergy Alliance, a formal partnership combining the collective strengths of The Texas A&M University System's two premier research agencies in agriculture and engineering -- the Texas Agricultural Experiment Station (TAES) and the Texas Engineering Experiment Station (TEES).

The research initiatives will focus on several technology advancements to produce biofuels including, but not limited to:

- identifying, assessing, cultivating, and optimizing production of second-generation energy feedstocks for cellulose and bio-oils with a focus on non-food crops,
- characterizing and optimizing the design of dedicated bioenergy crops through advances in genomic sciences and plant breeding,
- developing integrated logistics systems associated with the harvest, transport, storage and conversion of bioenergy crops, and

-- developing advanced biofuels processing technologies.

"The development of biofuels from agricultural feedstocks requires a regional approach and research into many alternatives for the long-term energy needs of our country," said Dr. Elsa Murano, vice chancellor and dean of Texas A&M Agriculture and Life Sciences. "We have been able to capitalize on decades of existing research into sorghum, sugarcane, forage and oil-based cropping systems, which should provide us with premier, dedicated feedstocks for biofuels and renewable energy that are sustainable within existing agricultural production systems."

"Cellulosic ethanol, as opposed to sugar- or starch-based ethanol, broadens the choice of feedstock without impacting food supplies," said Rick Zalesky, vice president of Biofuels and Hydrogen, Chevron Technology Ventures.

Cellulose is an energy-rich carbohydrate that is the main structural component of green plants, found in the stems, stalks and leaves. One of the primary technical and scientific challenges of making biofuels from cellulose involves designing a low cost method for releasing sugar from cellulose that is bound in the plant cell wall for fermentation into ethanol or other biofuels.

FAMOUS TREES OF TEXAS

from the Texas Forest Service website—Famous Trees of Texas

For more information:

- <http://famoustreeofTexas.tamu.edu>

The Kissing Oak: On July 24, 1857, Senator Sam Houston made one of his more than 60 campaign speeches under this live oak. Following one such address, he gallantly kissed each of the ladies responsible for crafting and presenting him with a Texas flag.

The Hangman's Oak: The tombstone reads: "Remember, friends, as you pass by,

as you are now, so once was I. As I am now, you soon will be; prepare for death and follow me." Above this inscription are the names of eight men who lie beneath it in a common grave. They were victims of a brutal and senseless murder by members of a detachment of Confederate cavalry.

See the sidebar to read more about these and other famous trees in Texas history.

TEXAS FOREST EXPO & INSTITUTE

Whether you live in a neighborhood or own a family forest, the **Texas Forest Expo** will provide you with answers to protecting and managing your property. It is free, fun for the entire family and includes activities for the children.

A vast array of activities, workshops and exhibits will give you the tools to address issues that you face when caring for your property. Just a few of the important issues you will learn about are how to:

- protect your home and trees from wildfire
- generate alternate income from your property
- landscape to attract the wildlife you want while deterring those pesky critters you don't
- manage vegetation
- plan residences with Firewise and green principles
- keep your trees healthy
- control water quality and manage ponds.

The Expo will be held at the Lone Star Convention Center in Conroe, Texas. Friday, **October 26**, hours are from noon to 7:00 p.m. On Saturday, **October 27**, hours are from 9:00 a.m. to 6:00 p.m.

Also, the **Texas Forest Institute** professional development series for community leaders, natural resource professionals, emergency responders and public workers offers solutions to the increasingly complex challenges associated with living, working and growing in the urban-rural interface. The series offers two distinct training opportunities:

1. *Emerging issues in the urban-rural interface*
2. *Tree care and grounds maintenance*

Institute fee if \$50 includes:

- One-day workshop (Oct. 26, 2007; 8:30 a.m. - 4:30 p.m.)
- Lunch
- Course materials

Continuing Education Credits (CEU) are offered.

For more information:

- <http://texasforestservicetamu.edu/conferences/texasforestexpo/>
- texasforestexpo@tfs.tamu.edu
- (936) 273-2261

RITA RAVAGED AREA GETS FREE TREES

It has been two years since Hurricane Rita struck Southeast Texas. As citizens have been rebuilding their lives and homes, many have found that they can now start rebuilding their towns as well. A program called Operation Green Streets (OGS), of the Texas Forest Service, is here to help!

This fall, OGS is giving away 10,000 FREE TREES to residents in hurricane-affected counties. Approximately 15,000 urban or "in-town" street trees were destroyed by the storm in Beaumont, Port Arthur, and Orange alone. In an effort to replenish the urban treescape of Southeast Texas, free trees will go to the first 10,000 registrants who live within the city limits of any community within Jefferson, Orange, Jasper, Tyler, Hardin and Newton counties. All trees should be planted in the front yard of each residence and watered regularly.

"With almost 1,000 tree requests in the first 10 days of registration, homeowners should move quickly to reserve their tree," says Karen Woodard of the Texas Forest Service.

Citizens may register for one tree per household on-line at <http://operationgreenstreets.tamu.edu> or call toll free 877-512-TREE (8733). Registration deadline is October 5. Trees may be collected November 10 at designated pick-up sites throughout the six counties.

Funding for Operation Green Streets is provided by a grant from the USDA Forest Service in cooperation with Texas Forest Service whose project partners include Golden Triangle Sierra Club, Time Warner Communications, and numerous local partners.

from the Texas Forest Service website

For more information:

- <http://texasforestservicetamu.edu/main/article.aspx?id=2982>
- <http://operationgreenstreets.tamu.edu>

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Editorial Board

- Rusty Wood, TPWD, Nacogdoches, Texas
- Joe Pase, TFS, Lufkin, Texas

CARBON CREDIT CONFERENCE

The Texas A&M University Ag Research and Extension Center in Overton, Texas, is hosting a multi-state (Texas, Louisiana and Oklahoma) Carbon Credit Conference on September 28, 2007, from 9:00 a.m. to 4:00 p.m..

In addition to traditional agricultural, range, and forest products, landowners may now potentially realize income from the sale of carbon credits. But what does it mean? Is it a good deal? And does it truly provide an opportunity to generate additional income? This conference will help landowners, foresters, farmers and others gain a strong understanding of the carbon market, how it works, and if they might benefit from carbon credits.

The registration fee is \$30. This fee includes lunch, refreshment breaks and instructional materials. You can view the agenda and register online at http://www.reynoldsforestry.com/Carbon_Credits_Conference.htm.

Questions: Contact Barbara Ampong, bampong@tamu.edu; Phone: 903-834-6191.

This program offers 5 Continuing Forestry Education units.



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