

Waste to fuel project

Horse manure key component of bioenergy plant

By Ed Albanesi
Editor

WHEN FLORIDA AGRICULTURE Commissioner Charlie Bronson created the Farm to Fuel initiative four years ago, he hoped that it would precipitate an entrepreneurial spirit that would create energy solutions. He didn't have to wait long.

In late February Bronson announced the completion of an innovative bioenergy project that helps manage animal waste while it produces energy and agricultural products.



Agriculture Commissioner Charlie Bronson speaks in Ocala.

"What we're seeing here today is demonstrating that agriculture is going to be more of a force for our economy than it's ever been," Bronson stated.

"Agriculture is proving to be more than folks ever dreamed."

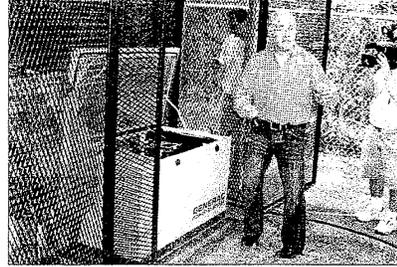
Bronson was referring to a demonstration project created by Sigarca, Inc. and partially funded by a \$500,000 grant administered by the Florida Department of Agriculture and Consumer Services.

The project involves a bioenergy plant that was constructed at the Southeast Livestock Pavilion in Marion County. The facility processes horse manure into renewable energy, organic soil and bio-fertilizers. Bronson believes that it provides an environmentally superior method of disposing of animal waste.

"Florida has more than a million horses and waste disposal is an increasingly difficult and costly endeavor," said Bronson. "This technology provides not only a safe and effective waste disposal method, but can also move Florida further ahead in efforts to produce clean, renewable energy."

Dr. Jose Sifontes worked with a team of experts from UF's Institute of Food and Agricultural Sciences to develop the technology used in the project. "We're taking a liability," explained Sifontes, "and turning it into methane."

The core technology of the project is a patented, dry fermentation process that takes biodegradable waste and pro-



Dr. Jose Sifontes fires up a generator that is being fueled by methane gas produced by Sigarca, Inc.'s Bioenergy Plant at the Southeastern Livestock Pavilion in Marion County. The demonstration project was partially funded by a \$500,000 Farm to Fuel grant.

duces heat and electricity. Horse waste is fed into one of four bio-reactors where it undergoes three weeks of processing, all the time producing biogas that is about 60 percent methane.

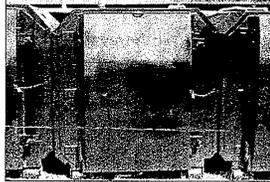
The reactors also produce a compost that, according to Sifontes, gets better with age. "In addition to being a good fertilizer, it also has properties that help repel insect pests," said Sifontes. He said mixing machines are used to turn the compost into a variety of products and planting materials.

The project was constructed by using the proceeds of the \$500,000 grant supplemented by an additional \$539,000 kicked in by private investors. Sifontes said that the project will produce enough heat, fuel and electricity to pay off the capital investment in three years.

"This technology can help the community by providing an energy source through the use of waste that was once destined for landfills," said Sifontes. "All other benefits aside, we save about \$300 per dumpster of waste that no longer has to be removed."

The demonstration

project will last for one year and studies will be conducted to evaluate the plant's performance and its ability to operate on a larger, commercial scale. It is hoped that once the results are reviewed, they will be able to create a full scale bioenergy plant using the same technology but with a greater output.

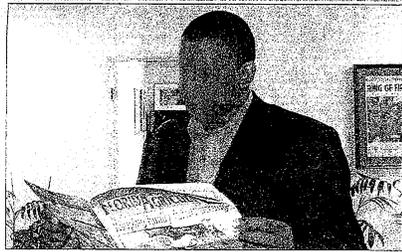


One of four bio-reactors that are being used to convert horse manure into heat, gas, electricity and nutrient-rich planting materials.

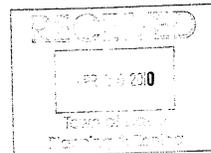


A comparison of animal waste, straw and wood shavings before, left, and after hammer milling.

Guess who's reading FloridAgriculture



Our mystery reader served in the Florida House of Representatives from 1995 to 1998 and in the Florida Senate from 1999 to 2002. In 2002, he launched an initiative to reduce class sizes in Florida's public schools, an effort that was ultimately approved as a constitutional amendment by Florida voters. He is now a member of the U.S. House and hopes to win a seat in the U.S. Senate this fall. Check your guess in next month's issue or online beginning April 1 at <http://FloridAgriculture.org>. March's mystery reader is revealed on Page 16.



Panhandle agriculture tour Illinois visitors get to see Florida farms up close

By G.B. Crawford
Assistant Editor

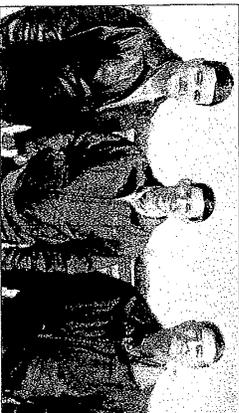
MIDWESTERNERS WHO MANAGE an escape to Florida in late winter usually expect a change. That is, they want a warm sun and a trip to the beach.

Unfortunately, a group of 35 young farmers from Illinois happened to arrive in the Panhandle early last month toward the end of one of the coldest winters on record here. The guests uniformly reported the same reaction: "It's

as cold here as it is at home!"

Despite the chilly temperatures, the group of Illinois Farm Bureau Young Leaders quickly warmed to a succession of farm production systems on a comprehensive tour of agriculture in the Sunshine State west of the Apalachicola River.

The five-day event, organized by FFB Assistant Director of Field Services Allan Scheffer, included an itinerary with stops at 16 different farm sites.



Allen Scheffer, left, FFB assistant director of Field Services, Barry Tiltman, UF/IFAS, and Ken Barron, executive director of the Florida Peanut Producers Association, chat during a stop at the UF/IFAS North Florida Research and Education Center in Marianna.

Judging from the visitors' comments, they found the tour to be a most worthwhile experience.

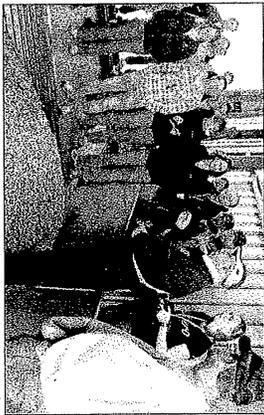
For example, Kevin Luthey described the event as "an eye opener." A corn, soybean and wheat farmer from southern Illinois, Luthey said, "Whenever I thought of Florida agriculture, I mainly thought of citrus. It was a shock to me to learn how important forestry is here.

"In our part of the world everybody is trying to find new uses for corn and new uses for soybeans," he added. "With forestry here you are trying to find new uses for wood pellets."

Luthey also admitted that he had never previously seen a peanut plant. "It was amazing to see that peanuts are dried in the wagons," he said. "We use one dryer for our corn crop."

The folks he met stand out as his most striking impression of the tour. "They have been super nice," Luthey stated. "Whenever you talk to people in agriculture you have a bond. We are so similar in so many ways. When you get out and talk to other farmers, you don't feel so alone. You realize that other people are doing the right thing, too. We just have to educate the rest of the public about what we do."

Jason Bunting, IFB state Young Leader chair, is a beef cattle, hay and straw producer who farms 75 miles south of Chicago. Like Luthey, he was especially impressed by the timber operations. But he was equally struck by beef cattle producers' use of Bahiá grass and perennial peanut



Tom Staskley, manager of Florida Foundation Seed Producers, Inc., points out the components of peanut shelling equipment.



Jason Bunting and Heather Pierson observed preparations for cantaloupe planting at the Taylor family farm in Jackson County.

Continued on page 8