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ENERGY

What's next? Citrus peels to ethanol

FPL Energy has a plan to produce cleaner fuel by turning agricultural waste -- citrus peels, specifically -- into ethanol.

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TALLAHASSEE --

Florida oranges might not just be for breakfast any more. They could soon help fuel cars.

FPL Energy announced plans to partner with a citrus processor and a new energy firm to build one of the world's first processing plants that would convert citrus peels into the gasoline additive ethanol. A likely spot for the plant: U.S. Sugar's Hendry County citrus facility.

If built in the next two years, the plant could produce about four million gallons of ethanol, 10 percent of which is right now blended into every gallon of gasoline motorists buy at the pump. Eventually, the technology could yield upward of 60 million citrus-to-ethanol gallons.

That's a fraction of the 8.7 billion gallons of gasoline used in Florida in the state's 2005-06 budget year, the most recent for which complete data is available. But while the amount of ethanol produced would be small, the plant's backers say it's a first step toward producing cleaner fuel, bolstering a struggling agricultural industry and weaning the state and nation off its foreign oil addiction.

"The idea is we would have the land produce both our food and our fuel," said David Stewart, president of Citrus Energy, a new Boca Raton-based firm that will help FPL build the plant with about \$3 million in state financial aid. "We're turning a liability for the citrus industry into an asset."

COST EFFECTIVE

Stewart said the idea of turning citrus peels into ethanol has been around for 20 years, but it has only become more financially viable as the cost of oil has risen while the costs have greatly declined for the enzymes used to break down the peels of oranges and grapefruits into sugar. Once converted into sugar, the citrus mash is spiked with yeast to make ethanol.

Unlike corn, citrus peel is relatively easy to convert into ethanol and doesn't turn food into fuel, since it uses a waste product, Stewart said. The ethanol would be blended at

stations in Fort Lauderdale, Tampa and Jacksonville, or it could be added directly to tanker trucks on site and hauled to gas stations across the state.

CRIST WEIGHS IN

Gov. Charlie Crist, who bashed FPL recently for its failed bid to build a coal plant, lauded FPL for exploring more alternative fuels. Still, the process will entail using existing power supplies, which include coal and nuclear power.

A spokesman for FPL Energy, the FPL Group subsidiary involved in the plant, said this "first-of-its-kind project" shows the company is actively interested in alternative energy sources. "No one has done this on a commercial scale," spokesman Steve Stengel said, declining to name the citrus processor because of ongoing talks.

A spokeswoman for U.S Sugar, which owns the state's largest citrus processing plant through its Southern Gardens facility, acknowledged the company is involved in the discussions. Sugar companies are also looking into ways to convert sugar cane stalks into ethanol, though currently it's not profitable to convert food sugar into ethanol.

TONS OF ORANGES

Last year, Florida harvested about 110 million 90-pound boxes of oranges, nearly all of which went to processing plants. About half of the 27 million boxes of grapefruit also went to processing plants, said Doug Bournique, executive director of the Indian River Citrus League, a grower-shipper organization based in Vero Beach.

What an ethanol plant will mean financially to the grower is not yet clear, Bournique said. The grower sells fruit to a processor who may sell the peel to an ethanol plant. Whether or how much individual growers benefit from the sale of peel to an ethanol plant depends on the grower's contract with the processor.

"Something like this, that could return back to the grower at least a part of what was all red ink, it would be a great benefit," Bournique said.