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Renewable BioSystems pioneers lower-cost animal fat processing for biodiesel feedstock; technology will support jatropha oil extraction, may have algae oil application

In New Jersey, Renewable BioSystems has licensed a British waste-to-energy technology that offers substantially improved economics for converting poulty and swine waste to biodiesel feedstock oils. . The technology is also under investigation for oil extraction of jatropha seeds. The technology steam heats waste matter , such as offal, but unlike traditional rendering technologies brings it to a temperature well below boiling, reducing energy inputs. The process recovers 95 percent of available oils, compared to 99 percent for traditional hexane-based extraction, but comes at a lower energy and installation cost.The cost of recovering oil is up to 80 percent less than the cost of using traditional rendering technology.

The machine is "portable and affordable," according to RBL CEO Peter Behrle, and processes up to 15 tons of waste material per hour with machines that are custom designed depending on the feedstock and volume of material, ranging from 2 ton per hour to 15 tons per hour units. Larger units, such as a 75 ton per day produced by a prospective jatropaha client, would be handled with multiple 15-ton units. "The performance gain," said Behrle, "compared to rendering is in not boiling off water but taking it mechanically."

"Dissolved Air Flotation sludge plants pay $300-$600 per truck to dispose of the DAF solids," Behrle added, "whereas the oil is a revenue stream, and in the future the remaining solids may be used one day as cattle feed. For now, the water is recaptured by the plant, and solids (actually a slurry with a 40-50 percent water content) continue to go to a renderer and generate additional income. through as a slurry has 40-50 percent moisture content.

The company said that it has just commenced serious discussions for jatropha, and may investigate algae-based oil extraction in the future. "We think we may have a viable process for algae oil extraction," but we just don't have the manpower right now to handle the task of testing. Besides, when we ask for samples, we need something to test through our smallest, 2 ton per hour unit. Instead of talking tons, the plants we speak with talk in quarts," Behrle added ruefully.

Another advantage of the technology besides affordability and new revenue streams, is a lower FFA level in the biodiesel produced from its oils. They say they can get down to as low as 2 percent FFA content, well within FFA limits for biodiesel.

The technology runs 24/7, but CEO Behrle and COO ___say that their typical client prospects, such as poultry farms, work a two-shift schedule.

The company, which was spun out of Control & Power Systems, says that system construction, installation and training takes 4-1/2 months.