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RBL sells its first industrial-scale oil extractor

by Erin Voegele

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New Jersey-based Renewable BioSystems LLC sold its initial industrial-scale oil extraction machine into the North American market. The customer who purchased RBL's system supplies oil feedstock to the biodiesel industry.

The machine, which is scheduled to be installed during the first quarter of 2011, will extract oil from food manufacturing waste that is currently being discarded. The system will create a new source of feedstock for biodiesel producers. According to RBL, the system will initially be able to generate approximately 500,000 gallons of yellow grease equivalent annually. However, the technology can be scaled-up in the future to produce more than 5 million tons of oil per year, per machine.

The oil extraction technology supplied by RBL was originally developed in England. "Our company [formed] at the end of 2008," said RBL CEO Peter Behrle. "My partner and I came from the biodiesel business, where we were continually frustrated by the high cost of feedstocks…We had gone in search of technologies that might provide less expensive feedstocks. We bumped into this technology in England and we licensed it for exclusive sale and manufacture in North America."

The process is specifically designed to extract oils from organic waste streams, such as food factory waste, livestock offal, fish residuals and various sludges. While Behrle noted that some of these materials are already being deoiled through rendering processes, he said RBL's process is able to extract oils more efficiently, more completely, and less expensively. The process essentially reduces the size of incoming organic waste streams and heats the material through a proprietary process. The material is then put through a proprietary centrifuge process, which separates it into three streams: oils, solids and water.

According to Behrle, the quality of oil that comes out of the process depends on the organic material that is introduced into the machine. "We don't change the quality of the oil," he said. "We just extract the oil." For example, an RBL machine that takes in fresh offal would produce a high-quality oil with extremely low free fatty acid (FFA) content. However, if the machine is processing an organic waste material that has been allowed to degrade over a long period of time, the resulting oil will be higher in FFAs. "We'll always have very low water and very low impurities," Behrle continued. "The oil will be good in that respect, but the FFAs will all depend on how quickly the material can be processed."

RBL is seeing significant interest in the technology from both the livestock industry and biodiesel producers. While he cannot release specific company names, Behrle noted that poultry processors in particular are showing a great deal of interest in adding the process to their operations. "We have also been in good dialogue with swine and cattle processors," he said. "We've been in dialog with some of the largest waste haulers in the United States, who are interested in diverting food waste and de-oiling it before it is landfilled or composted…We are also working very closely with a number of biodiesel and renewable diesel producers, who are interested in working with us to fund our machines to provide inexpensive sources of feedstock for their processes."

With the 800 million gallon biomass-based diesel requirement set by RFS2 for 2011, scaling up to at least 1 billion gallons in 2012, Behrle said there is a need to develop more plentiful, less expensive biodiesel feedstocks in the U.S. "We're in need of new feedstocks, and that is the concept behind what we do," he said. "We search out waste streams that have oil that is not currently being extracted. We believe that by finding those waste streams and installing our technology, we'll be able to help meet the RFS2 requirements for years to come."