



From the April 2009 Issue

Food, paper waste target for NC ethanol production

by Susanne Retka Schill

Food processing waste will be the feedstock for a 5 MMgy ethanol plant in the planning stages at Statesville, N.C., as a joint venture between Custom Environmental Technology Inc., a wastewater treatment firm based in Matthews, N.C., and Green Castle Energy Inc., a new technology firm from Maumee, Ohio. Phase one of the project will be using wastewater and sludge high in fermentable starches and sugars in a standard ethanol process similar to what is used in the corn ethanol industry. Phase two will incorporate waste paper streams, according to James Bleyer, engineering manager for Green Castle. "Paper is classified as cellulose, but the primary breakdown is done by the paper mills. When we get it we can't use the alpha amylase used by corn starch ethanol, but there are enzymes out there that convert the cellulose into fermentable sugars." Combining the two waste streams makes a good process, he said. "Paper waste would normally be dry and food waste very wet."

Custom Environmental is contributing its technology to precipitate biosolids out of food processing wastewater for the project. Ronald Grayson, chief executive officer of Custom Environmental, said he was working on a water treatment system for a tortilla manufacturer when he realized the sludge would be high in fermentable starches. A sample sent to Green Castle proved it would work as a feedstock. The next step was to acquire a closed textile plant in Statesville, N.C., where Grayson had installed a wastewater treatment system in the mid-1990s. "Now that the pilot test part is finishing up, we're contacting different companies that have starches and sugars that we can use." He estimated the plant will require 25 to 30 trucks a day of waste streams, both sludges and waste water, to fuel the ethanol plant.

A third dimension of the project will be to treat the unfermentable solids in an anaerobic digester to produce biogas for process heat.

Grayson said the engineering is underway to retrofit the textile plant and install needed new components. The permitting process has not yet begun. The partners hope to begin construction of the facility in the fall, with production to begin the following spring.

© 2009 BBI International