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Board Approves Biodiesel Test Site

By Gina Lindsey

Catawba County is ready to cash-in on the concept of biodiesel fuel with a new biodiesel testing facility planned for the Eco-Complex. The project will mean significant savings in diesel fuel costs to operate the landfill's equipment.

On Monday night, the Catawba County Board of Commissioners approved a $3 million, 5,000-square foot facility to test biodiesel fuel produced from crops around the landfill, Barry Edwards, Catawba County director of utilities and engineering, said.

The project will be a partnership between the county and Appalachian State University, which will lease the building for research for at least the next five years.

"It's further connecting Catawba County with the university system," Edwards said. "We're bringing research and scientists right here to our site."

The college will send one professor and students from ASU's department of technology to conduct research on the fuel. In turn, the county will receive $1,000 in rent from the university each month.

"This is just more connectivity with the university, scientists doing real research in a real research facility," Edwards said. "Housing scientists right there allows us to be more productive."

For the time being, the university is using grant funding to transport the county's canola crop to its laboratory facility on its campus in Boone.

Edwards estimates the project will produce about 30,000 gallons of biodiesel each year at a cost of about $2 per gallon. The fuel will then be used in the landfill equipment, which is currently consuming 600 gallons of diesel fuel each day at $4.59 per gallon.

The county will spend $1.6 million while ASU will contribute $1.4 toward the project. Edwards said the figure includes the cost of constructing the building and the necessary equipment.

The majority of the county's funds will be used in the construction of a tank farm, involving a series of tanks capable of holding up to 2,000 gallons of biodiesel, Edwards said.

The fuel will be tested to determine how much energy is produced by the fuel and testing its gel point using Freon to chill the gas. The gel point is the temperature at which the biodiesel congeals and becomes too thick to be used as fuel. Edwards said biodiesel tends to provide less energy than standard diesel fuel, which is why the fuel's heat and energy value must be assessed. The purpose of the project is to optimize the amount of fuel that can be produced from the county's crops and determine the best types of crops to use.

Last month, the county harvested its first crop of canola, a crop commonly used in the production of biodiesel fuel, Edwards said. He said canola produces about 102 gallons of fuel per acre of crop, compared to peanuts that make about 90 gallons per acre and sunflowers at 82 gallons per acre. Sunflowers are next on the county's list to try, Edwards said.

Catawba County is already farming about 30 acres with the help of local farmer Michael Whisnant, though eventually the acreage will grow to about 200, Edwards said.

The county will begin construction on the new facility in about nine months, Edwards said, after the design plans are finalized. It will take another nine months to complete the construction of the building, which will be located next to the energy and office complex off Rocky Ford Road.

The county will train two employees in how to make biodiesel fuel in case ASU decides to leave the project at some point. Edwards said regardless of ASU's participation years down the road, he said the county plans to continue the project long term with the landfill expected to last another 60 years.