

Cellulosic Biorefinery Groundbreaking

Tennessee Working In A New Direction In Energy Production

JACKSON, TENN.

Vonore, Tennessee, is a quiet town nestled in the Appalachian Mountains some 30 miles south of Knoxville. But this small city, with its population of just over 1,000, could soon be at the center of a new biofuel industry. The University of Tennessee and DuPont Danisco Cellulosic Ethanol recently broke ground there for an innovative pilot-scale biorefinery and state-of-the-art research facility for cellulosic ethanol.

"When it comes to facing the challenges of the future, Tennessee isn't just talking the talk about clean energy technology, we're walking the walk, rolling up our sleeves and getting to work," said Tennessee Governor Phil Bredesen. The governor, along with United States Senator

program as part of the University's research into supply chain logistics for cellulosic biorefineries. Studies involving switchgrass are also being conducted across the state at several of the University's outdoor laboratories.

The biorefinery's construction and switchgrass production are the first major components of the UT Biofuels Initiative, a farm-to-fuel business plan developed by UT Institute of Agriculture researchers. The Initiative models a biofuels industry for the state with multiple commercial facilities supplied by locally grown feedstock and capable of supplementing 30 percent of Tennessee's current petroleum consumption.

"I am proud of the role the University of Tennessee is playing in this initiative," said Pe-



Tennessee Governor Phil Bredesen checks out the no-till drill used to officially break ground for the state's first-of-its-kind cellulosic ethanol biorefinery. More than 200 people attended the event. The University of Tennessee, through Genera Energy LLC, has teamed with DuPont Danisco Cellulosic Ethanol to construct a pilot-scale facility at Vonore, Tennessee.

Photo by B. Longmire

Bob Corker, and many state and local leaders converged in Vonore on October 14th to commemorate the biorefinery groundbreaking and herald a new direction in energy production.

"We stand here today at the very forefront of biofuel research," remarked UT President John Petersen. "I believe the result of that foresight and the return of that investment could be enormous."

The biorefinery is a multi-million dollar project sponsored by the state of Tennessee and DuPont Danisco Cellulosic Ethanol. Once completed, the facility is expected to produce cellulosic ethanol as a transportation fuel. Two non-food products, corn stover and switchgrass, will serve as the feedstock for the biorefinery. With the capacity of producing 250,000 gallons of ethanol annually, the biorefinery will provide university researchers with a larger-than-laboratory, "real-world" setting to research biomass conversion economics and possible additional environmentally friendly co-products of the biorefinery.

"We are ready to scale up, we have economics that can't be beat," says DuPont Danisco Cellulosic Ethanol President Joseph Skurla. "And with the University of Tennessee and the farmers of this great state, we have a winning team that is going to help deliver sustainable, non-food biofuels to the market on an accelerated schedule."

The University has also invested state dollars in the development of switchgrass as an energy crop. More than 700 acres in East Tennessee are being farmed in a sponsored switchgrass

tensen. "It is an important part of our responsibility as a land-grant university – to impact the state's economy and serve the public."

Construction on the biorefinery should be complete sometime next year. The facility is expected to begin producing ethanol before the end of 2009.

The University of Tennessee is the State's Land Grant University, advancing the three pillars of the land grant mission: research, education, and extension. The University of Tennessee Biofuels Initiative (UTBI) is an example of integrating the University's core competencies to bring about positive economic development and create lasting platforms for excellence in research, education, and extension. Given the active and longstanding biomass energy and biofuels R&D and programming base already in existence within the UT Institute of Agriculture, UT has charged the Institute with development and administration of the UTBI. In 2007, UT AgResearch, the Tennessee Agricultural Experiment Station division of the Institute, formed the multidisciplinary UT Office of Bioenergy Programs (OBP) as an umbrella unit to co-

ordinate and administer several biomass energy and biofuels programs, including the UTBI. The UTBI includes the switchgrass farmer incentive program, directly related R&D, UT Extension farmer and public outreach and education, coordination with the U.S. Department of Energy BioEnergy Science Center at ORNL, and developing collaborations and strategic partnerships with other stakeholders. Δ