

BioEconomy *Update*

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BioEconomy focus of DLA visit

Jim Kostanski and Gary Lerch, representatives from the Defense Logistics Agency's Office of Operations Research and Resource Analysis (DORRA), recently visited Iowa State University to gain more insight and information about the growing marketplace for biobased products. "We recognize that ISU is a center for research in biobased materials and we believe this is a good place to start," Kostanski said.

The Defense Logistics Agency (DLA) is the primary supplier of the nation's military services and several civilian agencies. The DLA provides critical resources needed to complete worldwide missions. The 22,000 employees at the DLA also work to provide logistical support for peacetime and wartime operations.

DORRA, an arm of the DLA, offers a wide range of analytical services to DLA managers, ranging from data-driven statistical analyses to business-oriented process improvement studies. DORRA employees apply the science of rational decision making and the study, design, and integration of complex situations and systems with the goal of predicting system behavior and improving or optimizing system performance.

Kostanski and Lerch's goal for visiting ISU was to become acquainted with the biobased industry growing in Iowa and also what biobased products are available as substitutes for non-biobased products. During their visit to ISU, they heard from a variety of speakers from both academic and industry associations.

Gary Haer and Kurt Brannian presented information about soy products that West



Larry Johnson, Director of CCUR, displays a biobased chair seat on the tour of the CCUR pilot plants during the visit from Gary Lerch and Jim Kostanski from the Defense Logistics Agency. From left: Kostanski, Lerch, Steve Devlin, Tonia McCarley, Johnson, and Jill Euken.

Central Cooperative in Ralston is producing and the direction of future research. Currently, West Central is producing approximately two million gallons of biodiesel each year, which makes the company the state's largest producer of biodiesel. Much of the company's success with biodiesel can be attributed to break-through research and government support. "We have had great growth from our partnerships with the DLA. Also, continued government support of our products helps us make contacts with more distributors," Haer explained. "In terms of our technology, we have organizations across the nation contacting us for more information."

Another organization that presented to Kostanski and Lerch was the newly formed Iowa Renewable Fuels Association. This association is committed to making Iowa a leader in producing renewable fuels, high-quality livestock feed, and other value-added products. Lucy Norton, the executive director of the association, presented information in terms of ethanol production in Iowa.

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Federal Program Helps Manufacturers

The Center for Industrial Research and Service (CIRAS) at Iowa State University (ISU) has been working with the USDA to launch a new biobased products initiative to meet requirements laid out in the Farm Security and Rural Investment Act of 2002 (FSRIA). This initiative, the Federal Biobased Products Preferred Procurement Program (FB4P), will assist federal agencies purchase biobased products that meet standards established by the FSRIA. The term “biobased product” covers any commercial or industrial product composed in whole or in

significant part of biological products, renewable domestic agricultural materials, or forestry materials as determined by the U.S. Secretary of Agriculture.

Through partnerships with federal officials, manufacturers, other universities, and private sector groups, CIRAS has accomplished many goals relative to its biobased products program, including designing a USDA Certified Biobased product label, developing a computer-based management information system, devising a long-term operation management system, and recruiting manufacturers to participate in the program.

One of the manufacturers working with Iowa State is Prime Coatings, maker of Utilithane Polyurethanes. This California-based company manufactures products that protect steel, concrete, and wood structures and materials. According to Prime Coatings’ Steve Crandal, Utilithane products are widely used throughout the public utilities sector in potable water storage tanks and reservoirs, as well as roofing and wastewater infrastructure applications. Utilithane products have been submitted for carbon-14 testing to determine biobased content. The products also have been through the

Building for Environmental and Economic Sustainability (BEES) analysis to evaluate life-cycle costs, environmental impacts, and human health benefits. They are currently scheduled to be designated for inclusion in the FB4P. Other companies nationwide also are submitting products that will help the FB4P grow.

“The most important factors affecting implementation of this program will be participation and support of biobased manufacturers,” said CIRAS Program Manager Steven Devlin. “It’s easy for manufacturers to start the process of designating products for the FB4P. We now have an online information submission system available for manufacturers to use. They also can visit the Web site, download the product information sheet, and return it to us [CIRAS] as soon as possible,” Devlin said. Product sheets can be obtained on the Internet at www.biobased.oce.usda.gov.

A list of item designations will result from the information gathering and product testing process that manufacturers like Prime Coatings are supporting. These designations will help manufacturers market their biobased products to the federal government. Currently, the final guidelines for establishing FB4P are being approved by USDA. ISU continues to work closely with USDA and is ready to implement the program as soon as the government issues the final guidelines.

ISU and CIRAS were selected to jump-start this program for the USDA in part because of their growing commitment to the bioindustry. “ISU already is supporting the emerging bioindustry with the Office of Biorenewables Programs, the BIOWA Development Association, and the Iowa Industries of the Future already in place. The USDA saw these efforts as a good opportunity to help start this program,” Devlin said. ❖

For more information about the FB4P, visit:
www.ciras.iastate.edu

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A Closer Look: Renewable Energy Group

West Central Cooperative, well known for their advanced technologies in biodiesel production, has recently formed a new company, the Renewable Energy Group. This group, based at West Central in Ralston, was created in 2003 to design and build biodiesel plants across the nation using technologies developed at West Central. The Renewable Energy Group has teamed with Todd and Sargent Construction Company of Ames to complete the construction of the biodiesel plants. "We have built this company around a combination of the technologies available at West Central and the construction capabilities of Todd and Sargent," Executive Vice President of West Central Cooperative Nile Ramsbottom said.

The goal of the Renewable Energy Group is to build a turn-key, fully-operational biodiesel plant for an investment group. Once the plant is built, West Central trains the employees to operate the new plant. New employees work side-by-side with employees at West Central before stepping into their jobs at the new biodiesel plant. The new plant has the same equipment, technology, and operating systems as West Central Cooperative but is typically larger and able to produce more biodiesel.

The group also offers additional services to the new biodiesel plants. Services including marketing the biodiesel fuel, procuring raw materials, purchasing input chemicals, and managing the facility are options that investment groups may purchase from the Renewable Energy Group. The new plant can save money by hiring West Central to purchase materials and chemicals. The cooperative is able to purchase these products at bulk rates and also from vendors who fit West Central's standards for quality products. "Offering options to the investment groups fits the West Central culture

better than making these options mandatory," Ramsbottom said. "We have had a lot of groups interested in having West Central manage the facility for them."

The first biodiesel plant to be developed and built by the Renewable Energy Group is currently under construction in Albert Lea, Minnesota. The group broke ground at the site recently and expects the plant to be finished by June 2005. Other investment groups around the nation are working with the Renewable Energy Group to build more plants. Those additional plants currently are working through the start-up phases and should be coming on board in the next year. West Central is a minor owner of the plant in Albert Lea. Other investment groups have asked the cooperative to be a minor owner of their facility to help with the fund drive.

The Renewable Energy Group currently does not have employees, rather it leases specialists from both West Central and Todd and Sargent. The addition of this company to West Central's organization has resulted in the addition of five new employees in Ralston, including technicians, chemists, process engineers, and marketing specialists. West Central estimates they will be hiring additional people in the near future to help with this endeavor. ❖

Soy Biodiesel is...

Derived from 100% virgin soybean oil in a 2% minimum blend

A high-lubricity fuel for use in existing, unmodified diesel engines

Safe for your engine

Produced from a renewable resource

Readily biodegradable

A proven fuel

A key way to expand soybean use

Facts courtesy of the Iowa Soybean Board and West Central Cooperative

Project Supporters

The BioEconomy Working Group is a working group of the Value Chain Partnerships for Sustainable Agriculture (VCPISA) project funded by the W. K. Kellogg Foundation at Iowa State University. Financial support comes from five key partners: Leopold Center, Iowa Energy Center, Cargill-Dow, BIOWA, and the US Department of Energy.

BioEconomy Working Group News and Notes

The BioEconomy Working Group (BWG), a part of the Value Chains Partnership for a Sustainable Agriculture (VCPSA), is striving to build a BioEconomy in Iowa. Through their goals and objectives, the group is working to ensure all facets of a BioEconomy are researched and modeled for future use.

Recently, members of the BWG met to discuss and create a **sustainability matrix**. This matrix sets forth plans to build a BioEconomy in Iowa and includes examples for producers, manufacturers, distributors, retailers, and communities.

The BWG has also just released their **request for proposals** for 2005 grants. Approximately \$35,000 will be available to participants of the BioEconomy Working Group for research and development projects beginning in December 2004. The Leopold Center, as fiscal agent for the Kellogg Foundation grant that funds the VCPSA project, will administer the funds.

To view the matrix and the request for proposals, visit the website at: <http://www.valuechains.org/bewg/default.htm>. ❖

DLA representatives visit Iowa to learn about BioEconomy

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“In addition to what we currently have happening in Iowa, we would like to add value here. We are a net exporter as we send renewable fuels to both coasts. We would like to expand that,” Norton said.

In addition to West Central and the Iowa Renewable Fuels Association, Kostanski and Lerch heard success stories and future research plans from manufacturers HNI (formerly HON Industries), Environmental Lubricants Manufacturing (ELM), and Genecor, International. Diane Neuzil, director of the AgBased Industrial Lubricants Program at UNI, also spoke about the future of ag-based lubricants and the potential for growth.

Robert C. Brown, director of Iowa State University's Office of Biorenewables

Programs, presented information about ISU's Biorenewable Resources and Technology graduate program. Also, a variety of professors shared their biobased research interests. These ISU faculty members presented findings, successes, and future goals for research and rural development.

Kostanski and Lerch rounded out their visit with tours of the Center for Crops Utilization (CCUR) pilot plants and the Biomass Energy Conservation Facility (BECON) to learn more about the research and processing capabilities ISU has.

“We are proud of what we have started here in Iowa. The biobased industry is quickly gaining momentum. Gary and Jim's visit allowed ISU and the state of Iowa to showcase the opportunities we



Larry Johnson (left) shows Jim Kostanski some biobased materials produced in the CCUR pilot plants.

have available to the government in terms of biobased products and research,” Jill Euken, Industrial Liaison for the BioEconomy Initiative at ISU, said. ❖

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