

Farm to factory, institute lends a hand

BY DAN EMERSON

Special to Finance & Commerce

The term “value added” has become something of a corporate marketing cliché.

But it is accurate to sum up the mission of Minnesota’s Agricultural Utilization and Research Institute (AURI): helping develop products that will add economic value to crops and livestock produced on farms in the state.

“We assist entrepreneurs to see how far they can take an idea, hopefully, to a product or process they can market,” said Teresa Spaeth, executive director of the Crookston-based agency, created by the state Legislature created in 1987.

Some AURI projects include:

¥ Helping South St. Paul-based startup EarthClean Corp. develop a corn-based fire-suppressant gel, called TetraKO. The product changes plain water into an eco-friendly, adhering gel that knocks down fires faster than water or foam, according to its developers.

¥ Working with Altura, Minn.-based Pork and Plants to develop biomass pellets, which can be burned to heat its greenhouses and sold to other commercial energy users. Edward and Joyce Kreidermacher founded Pork and Plants in the 1980s. Their sons Eric and Paul operate Alternative Energy Systems, which markets commercial and residential biomass boilers. They are working with AURI to develop pellets made from local resources such as corn stover, soybean straw and native prairie grasses, to fuel the boilers.

¥ Helping Lambertson-based entrepreneurs Kathleen Batalden Smith and Justin Smith develop their Omega Maiden Camelina oil and market it as a source of heart-healthy, omega-3 fatty acids and Vi-



One of the institute’s more high-profile clients is Blooming Prairie-based BioPlastic Solutions, which makes framing, edging and trim products used in building and furniture construction. CEO Gary Noble, right, and an unidentified employee examine one of the machines used at the plant. (Submitted photo: Rolf Hagberg Photography)

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tamin E. Kathleen's father, Phil Batalden, raises the Camelina seed on the family's certified organic crop and livestock farm. The company started bottling Omega Maiden Camelina oil late last year and is now setting up wholesale and retail distribution.

With a \$5.4 million budget for 2012, AURI provides research and development and networking assistance to small and mid-size businesses. Along with research expertise, it also sometimes shares the cost of field trials, points clients to existing research, and sometimes makes site visits to help companies bring on new technology or processes.

As is typical in the R&D world, initially promising ideas sometimes prove scientifically or economically unfeasible. But even in those cases, AURI provides a useful service by helping clients avoid wasting money on further, unproductive research, according to Al Doering, a scientist who runs AURI's co-products pilot lab in Waseca.

The Waseca lab, one of five facilities AURI operates in Waseca, Marshall and Crookston, often works on developing co-products — such as the dried grain produced by ethanol makers, used as high-protein animal feed.

"If you walk into the Waseca lab, at one end you'll see test tubes and at the other, trucks bringing in semi-loads of material for testing" — such as the ash produced by burning biomass, Doering said. AURI's scientists are working to find the best binding agents to "granulize" the ash so it can be

used for fertilizer.

At its Marshall facility, AURI has two labs: one that analyzes the energy content of materials and one that focuses on meat and meat byproducts. In Crookston, it has a cereal sciences (food development) lab and a fermentation lab.

One of AURI's more high-profile clients is Blooming Prairie-based BioPlastic Solutions, the first company in the nation to use renewable polymers in plastic extrusion. (Extrusion is used to make items such as piping, tubing, window frames, trimming, edging and deck railing.) AURI is working with the company to improve its bio-based

plastics with the goal of achieving strength and rigidity equal to that of PVC, Doering said.

With Bioplastic Solutions' scientists working on the biochemistry, AURI has been assisting by sourcing and milling a variety of ag-based materials that might produce stronger bioplastics.

Bioplastic Solutions President/CEO Gary Noble says AURI's help has been "invaluable" in expediting the company's

product-development process.

One trend that has helped increase demand for AURI's services is heightened consumer demand for biodegradable, natural and "clean label" (fewer additives) products.

To help Cedar Summit Farm in New Prague bring its drinkable yogurt to market, AURI assisted with product development costs, linked the business to a University of Wisconsin dairy-food development service, conducted a nutritional analysis and produced nutritional labels — essential to support nutritional claims about the product, Doering said.

"Natural" doesn't always mean food. AURI client Pet Care Systems of Detroit Lakes produces Swheat Scoop grain-based cat litter and Swheat Stall horse bedding. The company markets the products internationally and recently completed a \$4.25 million production facility.

In 2010, the Animal Planet cable TV channel sent a camera crew to AURI's Waseca lab for a feature on natural cat litter.

Not all of AURI's clients are rural. An AURI food scientist helped French Meadow Bakery in Minneapolis develop its "functional breads," which are high in fiber and nutrition and low in carbohydrates.

Along with helping individual businesses, AURI also helps industries explore emerging opportunities, Spaeth said. Major focus areas include renewable energy sources such as biodiesel and biomass, food processing, and building material manufacturing.

\$5.4

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2012 budget for
Agricultural Utilization
and Research Institute