



# AG INNOVATION NEWS

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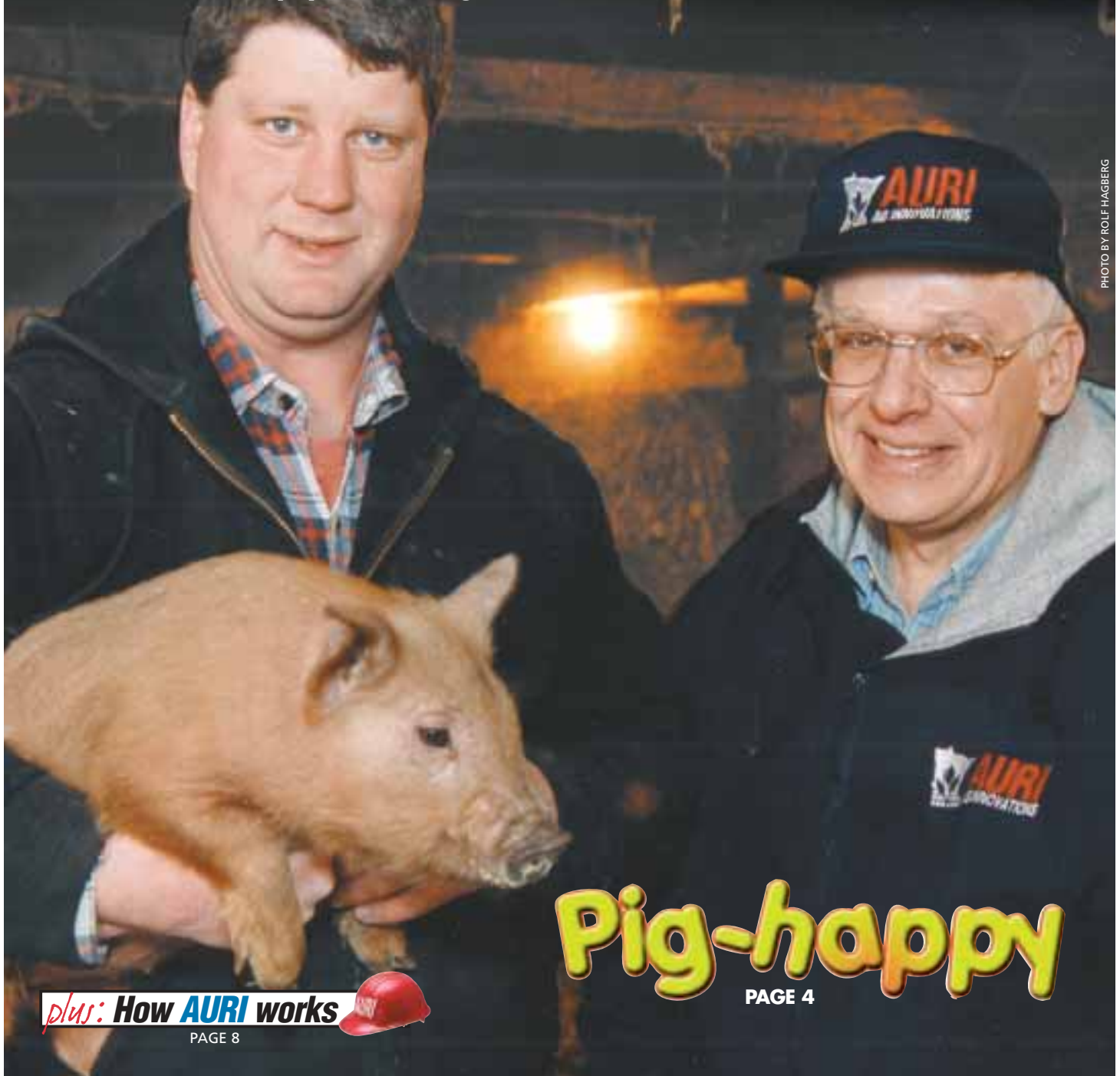


PHOTO BY ROLF HAGBERG

## Pig-happy

PAGE 4

plus: How **AURI** works

PAGE 8



## Of true value

BY EDGAR OLSON  
EXECUTIVE DIRECTOR

It is difficult to gauge impact. A professional athlete's statistics, for instance, may belie his true value to the team. His clubhouse contributions and ability to inspire greatness in other players may not be evident to fans, but those familiar with the team's inner workings will have a better idea of the player's worth.

In a similar way, all the impacts value-added projects have on the agricultural economy may not be evident at first. Yet the residual benefits

of value-added processing affect many more segments of Minnesota's economy than farming.

In 1998, more than 101,000 people earned their living from production agriculture. That is only about three percent of Minnesota's employment. But include the number of people involved in ag processing and other ag-dependent industries and the amount of impact begins to emerge.

Value-added ag processing provides tens of thousands of jobs in Minnesota and adds billions to the economy. Add the construction, transportation, manufacturing and retail jobs that depend on agriculture, and it becomes clear how this industry impacts the rest of the state.

While the number of people directly involved in production agriculture has been declining for years, it is not difficult to see that Minnesota still depends heavily on agriculture. It is also not difficult to understand why continued investment in agriculture, and specifically value-added processing, is a key not only to the future of farming but to the long term health of Minnesota's economy. ■



OLSON.

## Farmer-owned pork plant starts processing

*Dawson, Minn.* — Minnesota's newest pork processing facility is up and running. The Prairie Farmers Cooperative plant began processing in early February.

The plant is the culmination of seven years of work since the cooperative was formed to provide members with markets for their product and stable prices for their hogs. It is owned by 82 small, independent pork producers from southwest Minnesota.

"We're learning every day," says manager Jack Hawk. "We had some of the typical start-up problems, but we were fortunate to have good help to work through them. Now that we have the slaughter process smoothed out, we can move on to the premium products."

Initially the cooperative is producing fresh pork products, but it expects to introduce products like bacon and ham later this year under the Prairie Farmers label.

The state-of-the-art, 24,000 square-foot facility has the capacity to process about 300 hogs per day. A computerized record-keeping system can trace pork products from the dinner table back to the originating farm.

The plant, which will employ 45 people at full capacity, not only boosts the local economy but gives producers the opportunity to capture more value. That is a significant benefit, says Darrell Bartholomew, AURI meat scientist. "Farmers will be able to carry their products further along the marketing chain and reap greater rewards from the products that are sold."



## Bison producers band to reach consumers

*St. Paul, Minn.* — Minnesota bison will be more widely available in grocery stores thanks to a cooperative effort of the Minnesota Department

of Agriculture, AURI and producers.

Minnesota Premium Bison, a producers' marketing club, started working with MDA and AURI last year to identify statewide markets. Although individual producers were marketing to small, local grocery stores, they didn't have the supply to tap larger markets.

"One producer may have a hard time supplying enough product to meet demand, but if he or she networks with others, they can create, supply and build a strong market," says Paul Sand, MDA marketing specialist.

"By working together these producers are reaching new markets they couldn't individually," says Dennis Timmerman, AURI program director. "They're doing something to help themselves."

## Biodiesel bill passes legislature

*St. Paul, Minn.* — Years of work have finally paid off for biodiesel advocates. In March, the Legislature passed a bill requiring that diesel sold in Minnesota contain a 2 percent biodiesel blend.

"This is an historic day in Minnesota," said Ed Hegland, Minnesota Soybean Growers Association president. "Our legislators have pledged support of biodiesel, an alternative fuel that will not only help rural development in Minnesota, but lead us toward cleaner air and a take a first step toward less dependence on foreign oil."

The mandate will take effect in 2005 — or sooner if two conditions are met: the state's biodiesel production reaches 8 million gallons and the federal government provides a 3 cent-per-gallon tax credits for biodiesel users.

"This is a positive for value-added agriculture," said Edgar Olson, AURI executive director. "Biodiesel will help open up significant new markets for Minnesota's farmers."

Research has shown that emissions from biodiesel are less toxic than from petroleum diesel, and biodiesel increases fuels lubricity, which reduces engine wear. Diesel engines exempted from the mandate include those used in nuclear power plants, railroads and off-road vehicles used in copper and taconite mining and logging.

The Senate vote was 53-11; the House vote was 78-53.

A nonprofit corporation created to strengthen rural Minnesota's economy, AURI helps businesses respond to market opportunities with new and value-added uses for agricultural goods. The Institute builds working partnerships with business innovators, agricultural groups and researchers, and provides technical support to clients conducting new product research and development.

Following is a brief overview of AURI services. For more information, contact the office nearest you.

**An Initial Project Assessment** helps determine the technical and market feasibility of an ag-based product or technology. Applicants must demonstrate their projects will impact the use of traditional or alternative crops and livestock. The IPA program is designed to add value to agricultural commodities and foster long-term economic growth.

**The Market Assessment Program** identifies new or alternative market opportunities that add value to Minnesota farm commodities and benefit the state's producers. MAP is open to farm organizations, commodity groups, grower associations, agribusiness groups, public entities, nonprofit organizations and/or producer groups and is specifically designed for projects where a business or research partner is not yet involved in commercialization.

**The Technology Transfer program** identifies and develops value-added technologies and helps move technology from public and private entities to Minnesota businesses. Applicants must demonstrate the technology will impact commodity use.

**The Pesticide Reduction Options program** funds research and demonstration projects intended to reduce the use of petroleum-based products in farm production.

**AURI's Applied Research Services** complement technical and financial assistance. The Institute's research staff works with agribusinesses, university scientists, federal labs and commodity groups to access new technology and link it to commercial partners.

AURI also operates several **laboratories and pilot plants** that support innovative, ag-based product development. With staff expertise and commercial-grade equipment, the facilities offer a full range of services, from ingredient analysis to test production runs.

**Facilities include:**

- Pilot Plant and Product Development Kitchen, Crookston
- Waste Utilization Laboratory, Waseca
- Fats and Oils Laboratory, Marshall
- Meat Laboratory, Marshall

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**QUICK FACT:** Mississippi Topsoils has a capacity of about 50,000 bags a year.

Mississippi Topsoils General Manager Erik Hansen shows AURI staff mounds of quality dirt made from composted wood chips, leaves, grass and dried poultry processing waste. The bagged compost is available at garden centers statewide.



# Dirty Business

## Mississippi Topsoils puts quality compost in a bag

BY DAN LEMKE

*Cold Spring, Minn.* — As co-owner of a compost venture, Brad Matuska knows how to make good dirt. Now he is bagging up the profits.

Matuska and partner Mathias Miller own Mississippi Topsoils, which has begun packing its Soil Essentials compost in handy one-cubic-foot bags. Distributed by Specialty Seeds, Inc. of Albany, Minn., the bags are available in garden centers throughout the state.

Mississippi Topsoils, now in its third season, uses wood chips, leaves, grass and dried poultry processing solids to produce Soil Essentials Premium Compost. The company's high-tech compost facility is located next to Gold'n Plump's poultry plant in Cold Spring.

Bagged compost is a new marketing direction for Soil Essentials, which was originally sold in

bulk. "As we received customer feedback, we realized that application rates necessary to see significant results were pretty small because our compost is so rich," Matuska says. "Plus the economics and the fact that consumers like the convenience of bags led us in that direction."

### Not made in your backyard

"We have a very involved process that gives us a consistent product," Matuska says. "We focus on quality. ... Our nutrient content far exceeds most comparable products out there."

Soil Essentials ingredients are blended in 20-ton sealed bins. Computers control the entire process: mixing waste materials, maintaining

**DIRTY BUSINESS** TO PAGE 15



PHOTOS BY ROLF HAGBERG



PHOTOS BY ROLF HAGBERG

Josh VanDerPol (left) introduces AURI's Darrell Bartholomew to his youngest batch of hogs that will be pasture-grazed and raised on straw rather than concrete. "Straw creates a natural compost with manure and breaks it down so it doesn't have odors," VanDerPol says.

## Pig-happy in Pastures A Plenty

BY CINDY GREEN

*Clara City, Minn.* — At the Java River cafe in Montevideo, Minn., proprietor Patrick Moore serves up "Happy Ham" sandwiches. He's alluding to pigs frolicking in straw and sunshine, pork producers who have found high-value direct markets, and customers who enjoy Moore's barbecue pork salad, pepper-bacon soup and Chicago-style "Java hot dogs."

The "Pastures A Plenty Farm" pork served at Java River is supplied by Josh and Cindy VanDerPol, who moved to the Clara City family farm six years ago. They have helped Josh's parents, Jim and LeeAnn, turn a conventional confinement operation into one where hogs are raised in open barns of straw, pasture-grazed in the summer, and never given antibiotics or hormones.

Converting from conventional to free-range opened up new markets for the VanDerPols. They now meet the production

standards of upscale West Coast restaurants and are steadily increasing sales to specialty grocers, food cooperatives and catering services, as well as directly to customers.

### Freedom from nitrites

Since more consumers are demanding all-natural products, AURI has been helping the VanDerPols develop nitrite-free, low-sodium ham and bacon under the guidance of meat scientist Darrell Bartholomew, meat technologist Brian Reuter and lab assistant Karen Fennern, who managed a meat plant in Albany, Minn.

"The biggest challenge has been getting the cured flavor and color that nitrites provide," Reuter says. Through recipe and processing tests, they have replicated the red-pink color and taste in bacon "by smoking and adding certain natural extracts," Reuter says. They also controlled sodium content "so

it has a good bacon flavor, but it isn't too salty," Bartholomew says. The no-nitrite ham is still under development; it is trickier to get the color provided by natural seasonings to permeate the entire ham, Bartholomew says.

The VanDerPols say adapting their products to niche markets has been a better route than contracting with a major processor, which often requires raising thousands of hogs in confinement. Jim says his health deteriorated from 20 years of working in barns with potent ammonia gasses. "The environment in the new buildings and pasture is better for the animals and us," Josh says. "The air quality is better when they're not on concrete ... no more ammonia smells and hydrogen sulfide."

### Hog heaven?

On a chilly January day, young pigs romp in a straw-filled barn





AURI's Brian Reuter and Karen Fennern (in lab coats at right) cut samples of nitrite-free ham, which they are improving so smoke flavor and the red-pink color of natural extracts permeate the entire ham. Inspecting product samples are members of the VanDerPol family, from left: Jim, Josh holding his daughter Kirsten and Cindy.

on the VanDerPol farm. They sniff strangers curiously, then go about their daily play of digging in the straw and nudging each other. Only a faint hog smell is detectable. Straw “creates a natural compost with manure and breaks it down so it doesn't have odors,” Josh says. When hogs are grazed, “the outside air is even better. Sunshine kills a lot of pathogens. And they keep busy out there. ... In the buildings they chew on posts and walls to stay busy. Outside they can chew on clover.”

In another barn, adolescent pigs — about three to four months old — gang around Jim as he walks in their midst, pointing out various breeds such as the golden-brown, black-spotted Berkshire crossbreds, which he says is one of the best-tasting hogs on the market.

The VanDerPols switched to straw-raised, pasture-grazed hogs in the mid-'90s when their production facilities started wearing out. “Instead of making a new investment, they decided to try something different,” Josh says. When Josh joined the operation, “we were up to about 120 sows — producing about 1800 pigs a year. Then we shrank back in 1998 because hog prices were so low.” That's when they went to direct marketing.

“We started selling to family, friends, neighbors,” marketing Pastures A Plenty as ‘a patch of green and great cuisine.’ Then “we started selling to other people, custom processing. We saw a lot of people didn't want to buy big quantities — they'd rather buy 10 or 20 pounds at a time.”

## Directly challenged

The owner of the Kadejan poultry processing plant in Glenwood, where the VanDerPols send their chickens, introduced them to natural food stores that needed pork. “We paired with a state -approved (equal to USDA) processor in Belgrade, and from there we got our food handlers' license so we could sell individual pieces or smaller packages like 60 or 100 pounds at a time. That boosted the business quite a bit,” Josh says.

The VanDerPols started selling at the Willmar Farmers Market. Then “a church in the Twin Cities heard about us and wanted us to come and talk about our farming.” That entry into the Twin Cities led to supplying several food buying clubs, which order and pick up at distribution points like a church or Farmers Union. Besides a full line of pork, the VanDerPols sell beef, lamb, chickens and eggs, and market cheese from Cedar Summit Farm.

Another boost came from Niman Ranch in Iowa, which distributes their pork to four-star West Coast restaurants. “We have to fulfill their requirements on animal welfare,” Josh says. Since they don't use antibiotics, in rare cases where an animal is sick, “we hand treat it and market it separately.”

Pastures A Plenty products are sold in five Twin Cities food co-ops and the VanDerPols expect to add more. Because they put more effort into marketing and direct sales, they



Josh and Cindy VanDerPol are marketing free-range ham, bacon and other pork products to upscale restaurants, natural food stores and directly to customers.

**Pig Happy** TO PAGE 6

**Pig Happy** FROM PAGE 5

produce less than before — about 700 to 800 hogs a year. Their 320-acre farm, which once grew grain for market, now supplies feed and pasture for their livestock.

The direct-to-market operation also involves "a lot more paperwork" than conventional farming, Cindy says. "There's a lot of new stuff to learn and other challenges" — such as managing inventory when high-value cuts sell right away and they are left with unsold, lower-value meats. That prompted them to design such products as smoked bratwurst, wieners, and Polish and Italian sausages. While their products are coprocessed at plants in Belgrade and Hancock, "we're considering a small sausage plant; we're figuring out the financials," Josh says.

"Research shows people are paying more for locally-grown meat, but that's not what I go for — I care about how good it tastes," Moore says as he serves up his restaurant's last available order of barbecue pork. "I've had ham experts rave about the (ham) panini sandwiches; I've had sausage experts rave about the Polish and Java dogs. It's a quality thing."

For more information or to order Pastures A Plenty products, visit the Web site: [www.prairiefare.com](http://www.prairiefare.com) or call toll-free 1-866-290-2469. ■



Patrick Moore, owner of Java River in Montevideo, Minn. serves locally-produced food because he says the taste is superior. A few of his specialties, shown above, include ham soup, Chicago-style hot dogs and barbecue pork salad.

## AURI at work

Assistance provided by AURI includes:

- Recipe development
- Ingredient sourcing
- Product development
- Pilot production for evaluation
- Sensory evaluation (taste panels)
- Co-packer consultations



With more consumers demanding all-natural products, Pastures A Plenty Farm is offering nitrite-free, low-sodium bacon.



BY E. M. MORRISON

Oakdale, Minn. — Greener Pastures, which makes more than a dozen grain-based fertilizers and turf products, has developed natural weed-killers using sugar beet molasses. Nature's Weed Control, Nature's PreEmergent and Nature's Weed & Feed curb most annual and perennial weeds without chemical herbicides, says Mark Miles, Greener Pastures founder and president.

The newest products are a blend of soy, humic acid, iron and beet molasses. Molasses, a byproduct of sugar processing, contains a natural weed-killing protein, says Miles, an inventor who has built a million-dollar lawn care service around his original fertilizers.

### Beet your weedies

Initial test results suggest Greener Pastures' beet herbicide discourages weed growth "with an organic compound that's essentially harmless for animals and humans," says AURI chemist Jerry Crawford, who has been working with the company for several years. "You can see the vast potential if the research they're doing now validates the claims."

Tests at the University of Missouri Turfgrass Research Center showed that Nature's PreEmergent kills about 70 percent of pre-emergent crabgrass, matching the performance of a major national brand, Miles says.

Nature's Weed & Feed kills about 60 percent of emerged broadleaf weeds, Miles says. And Greener Pastures produced greater turf root growth than a major competitor.

Additional plot tests are underway at the University of Louisiana, and more trials are scheduled to begin this summer at Virginia Polytechnic Institute and the University of Guelph, Ontario.

### An inventor's bio

The evolution of Greener Pastures' natural weed whacker began when an inventive spirit met a vexing mystery. Miles, 41, grew up in Grant County in west central Minnesota, where both his father and uncle were well-known farm-shop inventors. Miles followed their footsteps. After college, he raised grain, sugar beets and hogs on the family farm; in his spare time, he tinkered with inventions. But the 1985 farm crisis forced him out of agriculture.



Miles moved his family to Pompano Beach, Fla. and started a small business resurfacing boat decks with a saltwater-resistant coating he had devised. It went well, Miles says. But his family didn't like south Florida's crime rates, so they returned to Minnesota a year and a half later.

### How does your grass grow?

In Florida, Miles experimented with organic fertilizers, "playing around with my own lawn." His concoctions, made from animal feeds, produced dark green grass and rapid growth. He approached some Florida lawn contractors with his results, but got the brush-off. Still, he was convinced natural turf products would find a ready market. Back in Minnesota, he decided to test his hunch.

In the spring of 1986, he rented a booth at the St. Paul Home and Garden Show, advertising an organic lawn care service. "I didn't have any money for brochures," Miles says, so when people approached, "I just started talking. I said I wouldn't use any chemicals on their lawns, only natural fertilizer made from agricultural crops."

By the time the three-day show was over, "I had signed up 300 customers." Fifteen years later, Greener Pastures sprays more than 3,000 Twin Cities residential lawns each season, plus local schools, parks and athletic fields.

### Mysterious weed kills

That first season, Miles applied a dry lawn fertilizer made from soybeans. Later, he devised a liquid fertilizer incorporating sugar cane molasses. The following season, he switched to locally-produced sugar beet molasses, "which was basically free for the trucking cost," he says.

But something unexpected happened when Miles used the new beet-molasses fertilizer. "We'd spray the lawns and a few weeks later the weeds would die," Miles says. "My customers got upset, because they thought I was spraying chemicals."

Miles was stumped. Afraid to lose business, he shelved the beet formula and went back to dry fertilizer. When he tried the beet liquid again a few seasons later, the same thing happened. So in 1996, Miles came to AURI's Marshall office for help unraveling the mystery.

AURI arranged for analysis at the University of Minnesota. Scientists there confirmed that a weed's cell structure degrades when treated with the sugar beet-based product. AURI then helped Greener Pastures improve the formula and manufacturing process.

### Response builds market turf

For the past two seasons, Greener Pastures has offered Nature's Weed Control products to its lawn care customers in the Twin Cities. The response has been terrific, says Stephen Chesla, Greener Pastures' executive vice-president. The new line helped the company

double revenues since 1999 to \$1.2 million last year, he says.

Greener Pastures' customers want lawn products that are safe for their families and the environment, Chesla says. "Because Greener Pastures is all feed grade, you don't have to worry about your children, or your cat or dog, walking on the grass after it's been sprayed." Unlike most other organic fertilizers, Greener Pastures' products contain no composted manure or animal carcasses. They increase organic matter in the soil and are phosphorus free, which helps protect lakes from algae blooms.

Greener Pastures hopes its new weed killer will fuel strong sales growth, says Chesla, 51, a former executive with Roper Corporation and Textron. The company is pitching the products primarily to commercial lawn care companies — a \$14 billion industry — and recently landed a deal with NutriLawn, a

Canadian franchise spraying 60,000 lawns a season.

Bringing Greener Pastures to this point has been a struggle, says Miles, who has several other products in the works, including a microbial treatment for pond algae. "Financing product development has been the most difficult. I borrowed from family, friends, vendors who believed in what I was doing."

But it's been satisfying, too, he says. "I was raised on a farm, and I derive great personal value out of making things grow." ■

## AURI at work

### Services AURI provided to Greener Pastures included:

- Technical assistance
- Plot test support
- Chemical assay
- Ingredient sources
- Business development contacts



PART TWO OF A SERIES



# How AURI works

## The first call: AURI's application process

**Editor's note:** This is the second installment in a series exploring AURI and the services it provides Minnesota. The first segment surveyed AURI's mission and projects; this section looks at who AURI helps and how to gain AURI assistance. Next time, we'll focus on AURI's technical services, including its scientists, technologists, pilot plants and laboratories.

of Minnesota commodities, but they are making products with higher value, so processing, packaging and marketing dollars stay in Minnesota. Rather than funding, such clients typically receive in-house help in product development, testing and pilot production from AURI's business staff, scientists and lab technicians.

At the other end are projects that can impact an entire industry, such as biofuels, fiber markets or food safety methods. Often sponsored by commodity groups, they receive higher levels of AURI investment because they could open opportunities to many producers' advantage.

### Application is simple

So if you have an innovative use for a Minnesota farm good, how do you gain AURI's help?

First, call an AURI field office and talk with a program development director —

BY CINDY GREEN

When St. Paul grocer Toua Xiong decided his cilantro-flavored sausages could be a hit outside his local Hmong customer base, a consultant advised him to call AURI.

Limited by his custom-processing license, Xiong can only sell sausages made in the rear plant of his FoodSmart grocery and deli. But he envisions a larger plant and a wider market for his coarsely-textured, fresh-herb sausages and red-hot dipping sauce.

A call to AURI was followed by a visit from AURI program director Dennis Timmerman and former meat scientist Ted Gillett, who helped Xiong through AURI's application process. A staff team led by Timmerman is now investigating the financial and technical feasibility of Xiong's plans as well as regulatory issues.

"Our goal is to get more resources and figure out how to put this together," Timmerman says. If the plans prove feasible, AURI meat scientist Darrell Bartholomew and lab technologists will assist in product development, testing and food safety issues.

### Mission fits all sizes

Xiong's value-added pork fits AURI's mission of capturing more processing and marketing dollars from Minnesota farm products in-state rather than shipping out raw commodity. The size and scope of projects that fit that mission vary widely, as does the amount of AURI investment.

On one end are small, innovative businesses like Xiong's. They may not use vast quantities



PHOTOS BY ROLF HAGBERG

Program development directors at AURI field offices are often the first staff that entrepreneurs and businesses talk to when seeking AURI's help. From the left, they are: Michael Sparby, who works in Morris and Crookston, Dennis Timmerman of Marshall and Lisa Gjersvik of Waseca, speaking with Erik Hansen, general manager of Mississippi Topsoil (see related story on page three).





AURi's Dennis Timmerman, who specializes in meat product development, is helping St. Paul grocer Toua Xiong investigate the feasibility of building a small meat processing plant to process his cilantro-flavored sausages.

Timmerman in Marshall, Lisa Gjersvik in Waseca, or Michael Sparby who operates from Morris and Crookston — although any staff person can help.

"Usually we can get a feel for where (the caller) is sitting from a phone conversation and make a determination whether a) it fits our mission, and b) whether we might be able to provide some technical assistance," Sparby says.

A potential client fills out a simple application form, including a brief overview of their company's history, financial position, and products or services. An assessment checklist helps AURi determine client strengths and weaknesses in five different areas, which Sparby describes as:

**Business:** "Is their business plan in place? Do they have a clear mission, vision and goals? We look at the management team and current financial position."

**Product and manufacturing:** "Where are they located and what facilities do they have? Is the product developed? How are they sourcing ingredients? What are their equipment and facility needs? Work force comes into play here also."

**Technical and quality control:** "We look at

licensing and regulatory issues — is this something patentable or better dealt with as a trade secret? As for product formulation and technical personnel, do they have people on the team to deal with technical needs?"

**Marketing:** "Do they have a marketing plan, strategies? Do they know their target market and competition? Do they have sales and marketing personnel? Do they have an invoicing system, a UPC or tracking-code system? What is their current distribution system? What kind of volumes and sales growth can they handle?"

**Financial:** "Do they know their exact cost of production? What profit margins are or should be? We look at basic financials, cash flows, pricing. Do they have financial personnel on board? Is an accounting system set up?"

Weakness in any area doesn't necessarily mean the applicant will be denied, Sparby says. "It's very rare that all the elements are in place, and if they are, they shouldn't need our assistance."

### Reality is hard

Sometimes it is all too much. "There have been people where you go through the initial meetings and bring up the

questions that will get brought up by us or a lender, and they realize what an undertaking it is. They decide 'it's not for me' and you don't hear from them again," Gjersvik says. "You've probably done them a favor — it's better to realize early on."

"One woman came to me with a bread mix; she wanted the product formulated and on grocery shelves nationally by the end of the month," Sparby says. "She was very serious. I started walking through what it would take up front, the slotting fees, the time commitment — and she didn't want that; she only wanted a part-time job."

Gjersvik estimates about one out of five project ideas she sees is "something that

**HOW AURi WORKS**  
TO PAGE10



AURi's Michael Sparby specializes in crop-based and cooperative projects.



Lisa Gjersvik, who has more than 10 years of AURi experience, specializes in helping small businesses and entrepreneurs commercialize innovative ag products.

## How AURI works

# AURI appoints staff teams to help clients

### HOW AURI WORKS FROM PAGE 9

can be developed; the others will get some direction on where else they can go for assistance."

## Making the team

The staff person who receives the client application completes a team application form, which evaluates how well the project fits AURI's mission and suggests staff members to work on the project.

"On the team form, we rate the (agricultural) impact as high, medium or low," Sparby says. "We look at how many producers are impacted and the total dollars versus units of value-added. For example, an identity-preserved product tracked from farm to manufacturer may gain the producer an additional 15 cents per bushel. Value-added wise, that's pretty low compared to manufacturing soy-oil lotion. But then we look at the quantity."

"The more commodity used, the greater the strength of the project," Gjersvik says. "It's best when producers come to us with an idea — they're the ones who need to benefit the most." Examples she cites as ideal projects include SoyMor, "a cooperative that's looking to extract the greatest value possible out of soybeans" and Helios Nutrition in Sauk Centre, which pays premium prices to local dairy farmers for their rBGH-free milk.

"Just using a commodity isn't enough," Gjersvik adds, listing such qualifiers as producer cost-savings, how many growers are impacted, whether the commodity is sourced in-state, impacts to the state's processing capacity and benefits to Minnesota's economy.

"If there's a product that ranks low all across the board, we may still want to provide technical assistance, but not money," Sparby says.

The client and team application forms are reviewed by AURI deputy directors Max Norris and Keith Sannes, who each have 10-plus years of AURI experience. If the project merits assistance, the directors appoint a lead staff person and up to four others to a project team according to their expertise. For example, Gjersvik works with small business and entrepreneurs, Sparby with cooperatives and commodity-based projects, Timmerman with meat products.

In addition, AURI's 12 technical staff members are knowledgeable in such areas as oils, meats, cereal foods, alternative fuels and byproduct utilization. Other staff may be assigned for their perspectives, such as Dan Lemke, communications director, who is knowledgeable in media and public relations.



When AURI staff teams consider project proposals, they look at strengths and weaknesses of the company's business plan, products under development, facilities, staff needs, technical and quality control issues, and marketing. AURI's Dennis Timmerman (left) and Michael Sparby review Mississippi Topsoil plans with the company's president, Math Miller.

## Up to them

Once the team is in place, it decides if and in what capacity AURI could help the applicant. "Most we'll provide technical assistance to — either referrals and networking, or we'll put them in contact with one of our technical people to walk them through a concept," Sparby says.

The client may also receive a small grant to hire outside help for feasibility studies or other specialized technical help. "We want to strengthen a project to the point where it can get financing through a conventional bank loan or investors. We are not in a position to be the financiers," Sparby says. "If it just needs financing because the product is already developed, that's something we would refer on.

"If it's technical assistance, a non-funded project, we will have other team meetings,

usually by phone conference, just to bring everybody up to speed," Sparby says. "But if you're looking at outside contractual funding, then there's a higher level of team diligence. We need team consensus on any dollar expenditures."

All funding must be matched dollar for dollar by the client and cannot be used for legal fees, employee or director salaries, vehicles, equipment, buildings or real estate. Money is disbursed when receipts of approved expenditures are submitted with progress reports. A final narrative report is also required.

## A distinct service

What sets AURI apart from other rural development organizations? Sparby says it's AURI's "hands-on" approach and "the expertise of the technical staff and the industry background they have. The way the

meats lab and scientists like Charan (Wadhawan) and Todd (Sisson) work is directly with the client. They teach them what they need to know. It's not running a food formulation and handing it to them — because if they need to change a formulation, they won't understand how to do it."

Gjersvik agrees, but adds that up-front business assistance is also important. "Most things can be developed — it's a question of whether they should be. We point out the other things to look at."

For more on AURI programs and field office contact information, see the "Guide to AURI services" on page two or visit [www.auri.org](http://www.auri.org) ■



# Electricity for all

## A methane digester could generate savings and electricity for an entire town

BY GREG BOOTH

*Perham, Minn.* — Dairy farm wastes could someday heat homes and dry clothes for residents of a northern Minnesota town.

That’s according to Little Pine Dairy owner Ron Tobkin, who hopes a feasibility study will show that energy produced by a methane digester on his 1,200-head operation is economical as well as environmentally friendly.

Tobkin has designed a city-rural cooperation scheme where, besides dairy manure, a digester would convert waste from one of the city’s biggest employers, Barrel O’ Fun, into energy. Primera Foods, another Perham business, has also expressed interest. Waste diverted to the digester would ease burdens on the city’s wastewater handling system, Tobkin says, allowing industry to expand. Perham could sustain more jobs without increasing its wastewater treatment capacity.

“Pulling together, it’s the way of the future,” Tobkin says. “We’re looking for ways that the agriculture industry and communities can work together to add value to waste products.”

If the digester is built, Tobkin says, it would hold 20 days of waste products — about 1 million gallons — with expansion capability. Project costs are estimated at \$1 million. Funding could come from the dairy, rural utilities and state and federal aid, Tobkin says.

### More steady than the wind

Energy from dairy farm byproducts is “more reliable than wind energy,” Tobkin says. “It’s seven days a week, 24 hours a day.” Little Pine Dairy spends more than \$100,000 a year for electricity; using power from the methane digester would help offset that cost. Potato chip manufacturer Barrel O’ Fun spends \$10,000 to \$14,000 a month to haul away waste, Tobkin says, and its savings could be substantial with a digester.

AURI hired RCM Digesters of Berkeley, Calif., which has designed 30 digester systems over the past 20 years, to run the numbers and see if a digester using agricultural and industrial waste is economically feasible. Other Minnesota communities have contacted AURI



PHOTO BY ROLF HAGBERG

for similar information, says Michael Sparby, AURI program director in Morris.

“If you are able to negotiate a favorable rate on a per-kilowatt hour, it’s feasible,” Sparby says. Tipping fees — the money companies spend on hauling away waste — can also be diverted to the digester, offsetting costs. Another revenue source could be the methane gas by itself, Tobkin says; gas lines already run to his farm. His vision includes “scrubbing methane and pumping it back into the city’s lines.”

An electric utility has to pay around six cents per kilowatt hour to make the project work, Tobkin says. One Minnesota dairy farm near Princeton sells methane digester-generated electricity to a power company (see Ag

Innovation News, July 2001). At 7.25 cents per kilowatt hour, owners Dennis and Marsha Haubenschild earn an average of \$900 a week on electricity sales.

### Aroma of approval

An added benefit is a reduction in waste odor, Tobkin says. Solids remaining after the digestion process have “very little if any odor.” Further drying renders a pathogen-free matter that can be used as fertilizer or even bedding. “We don’t lose the nutrient value of nitrogen, phosphorus and potassium; we’re able to retain that.”

The community digester has the support of the City of Perham, U.S. Rep. Collin Peterson, the Minnesota Pollution Control Agency and

the East Otter Tail Soil and Water Conservation District. There is also interest in the digester as a pilot for Project Minnesota, a rural economic development organization, Tobkin says. “This is an excellent example of how the City of Perham, Barrel O’ Fun, Primera Foods and Little Pine Dairy can all win,” Perham city manager Robert Louisseau wrote in a project support letter.

For more information on methane digester economics, see “A Self-screening Assessment and Checklist,” on the Web at [www.auri.org/research/digester/digchck.htm](http://www.auri.org/research/digester/digchck.htm) ■

# Marketing before manufacturing

## Ask tough questions before taking new product leaps, says AURI advisor

BY E. M. MORRISON

Busy building a "better mousetrap?" Inventions usually take months, even years, of concentrated work to be market ready. But all the research, design, testing, revising and trial production runs can be wasted — if market research isn't done first.

That's the word from AURI advisor Michael Rich, marketing professor at Southwest State University in Marshall, Minn. "Making a great product and getting it into the hands of the buying public are two very different things."

A product will not sell without the right customers — or the right pricing, promotion, distribution, merchandising — in short, without the right marketing.

With nearly 30 years of industrial sales and marketing experience, Rich exhorts entrepreneurs with bright ideas: Ask the tough marketing questions before — not after — you develop a new product.

### An arm's length look

Rich says the aphorism, "build a better mousetrap and the world will beat a path to your door," captures the outlook of many who come to AURI for help. "They're focused on the product. But a good product will not, by itself, ensure success."

Rich helps entrepreneurs take an arm's length look at their ideas before they commit their time, money and hearts. Among his first questions:

Have you bought the competing products? Have you analyzed their strengths? Rich says it's surprising how often clients say, "No." He



Michael Rich.

urges them to consider how their product differs from those already available and whether that difference matters in the marketplace. Some of his questions:

How is your product significantly different from the leading sellers? How will that difference be conveyed?

Will your product appeal to different people than the leading products do? Who are these people? What are they willing to pay for a product such as yours?

Why would a consumer buy your product instead of a similar one? What existing product will yours displace?

Confronting these questions is often discouraging, Rich acknowledges. It is only natural to believe that "everyone will be as excited about your product as your Aunt Lillian is."

### Start with research

It is also important to do detailed market research up front, Rich says. Check out the competition. What is the market share of each competitor? Do a few leaders dominate the sector? The region? Where are their products sold? How are they distributed? What do the market leaders spend on promotion?

Novices often fix on national product trends and consumption statistics, Rich says. But that data is rarely useful in the beginning. Instead, Rich suggests doing detailed interviews with local players. For example, if you have a new food product, begin by talking to the grocers, wholesalers, brokers, distributors and processors in your region.

### Got drive?

A crucial marketing factor is often overlooked, Rich says. Can you do what it takes for a reasonable chance of success? Are you willing to commit the money, the time, the travel? Can you stand the risk? Are you ready to pitch and sell nonstop? And can you keep it up for



Rose Patzer.

years until your market is established?

"People come in with ideas, and when we talk about what it's going to take for commercial success, they're surprised. Often, they're not really interested in doing all that."

### Think marketing, everyone

Rich has taught AURI scientists to explore these marketing questions with clients

before product development begins. That was a shift for chemist Rose Patzer.

Patzer, 37, has worked on many new ag products at AURI's Fats and Oils Lab in Marshall, including alfalfa pellets for hydro-seeding, soy oil candles, soy lotion and biodiesel fuel. Before her training with Rich, she didn't think much about who might want to buy the products she helped create. "I figured that wasn't my area — I'm a chemist."

Now, "I have a better awareness of marketing needs," she says. "Somebody may have a great idea for a product, but without a market, it won't go anywhere." ■

## AURI at inventors congress

BY JENNIFER PENA

Redwood Falls, Minn. — Ag inventions will see the light of the sun at Minnesota's renowned "invention convention" this year. AURI is joining the Minnesota Inventors Congress in June to showcase the state's agricultural innovations.

The Minnesota Inventors Congress, the oldest annual inventor gathering in the country, has provided a forum for entrepreneurs to showcase product innovations for 44 years. Established in 1958 to spur economic development in the Redwood Falls area, MIC

has grown into the nation's premier invention event.

Deb Hess, MIC board president, says that the event gives entrepreneurs an opportunity to "test market" their products, and "manufacturers attend hoping to locate new products ... consultants are available to talk about product development."

"The entrepreneurial spirit ... is what is great about this event. Inventors think outside the box," Hess says "They don't always know about the business side of product development. They need some guidance." MIC provides resources to help move inventions forward, she says.



"(The congress) is a new venture for us," says Dan Lemke, AURI communications director.

"But it's a natural fit. And there are similarities in what we are all about. AURI provides assistance to develop new ag-based products and to react to market opportunities. Like MIC, we offer unique resources to Minnesota innovators. It's just that our innovations are all ag-based."

AURI's participation will include product displays, interactive games and demonstrations by several AURI clients. "We're hoping to have some clients give samples to congress visitors," Lemke says.

Organizers say they're constantly on the lookout for ways to keep the congress fresh and relevant. "The goal is always to bring in something new," says MIC Coordinator Jennifer Moritz. "We want to attract more than just the inventors."

"The integrity of the congress is defined by who we partner with," adds Hess. "Highlighting Minnesota ag products is an absolutely perfect partnership."

The Inventors Congress annually attracts more than 100 student inventors and 50 to 100 independent commercial inventors from across America. Thousands more attend the three-day event.

The Minnesota Inventors Congress Expo 2002 runs June 14-16 at the Redwood Area Community Center Fieldhouse in Redwood Falls. For more information visit the MIC Web site at [www.invent1.org](http://www.invent1.org) or call (800) 468-3681. ■



# Elsewhere in ag utilization

BY JOAN OLSON

**Editor's note:** As a service to our readers, we provide news about the work of others in the ag utilization arena. Often, research done elsewhere complements AURI's work. Please note that ARS is the research arm of the USDA.

## Animal fuel for the Autobahn

Saria Bio-Industries, based in Germany, has built the world's first animal biodiesel plant. The plant can produce 2.8 million gallons a year from animal carcasses.

Saria, which operates rendering plants in seven European countries, had to stop using fat from cattle carcasses as animal feed because of mad cow disease. The company is using the fuel in its own vehicles.

Source: Doane's Agricultural Report, 11/19/01.

## Decoding sorghum secrets

With a \$7.5 million grant from the U.S. Department of Energy, NC+ Hybrids, Orion Genomics and SolviGene will work on transforming sorghum into an energy crop for ethanol production. The goal is to raise sorghum's starch content, thereby cutting production costs nearly in half. The key to engineering high-starch content is decoding sorghum at the genetic level.

Source: Progressive Farmer, December 2001.

## Can U.S. soy battle HIV/AIDS?

A new initiative in Botswana will deliver U.S. soy to those afflicted by malnutrition and HIV/AIDS. The project involves the first scientific trials on soy's effect on recovery and health maintenance in HIV/AIDS patients and its impact on adult nutrition and child development in non-HIV populations.

Source: Illinois Soybean Association, [www.ilsoy.org](http://www.ilsoy.org)

## Reflecting on soy

The Iowa Department of Transportation is set to test reflective road markers made from a rugged, biodegradable soy-protein plastic.

Epoxied to the road, the glass bead-impregnated markers are tough enough to withstand the rigors of a season's use. With the first winter snowfalls, the markers can be bladed from the surface and left to eventually decompose in the ditch. Installed markers cost \$1 each compared to \$50 for traditional iron markers.

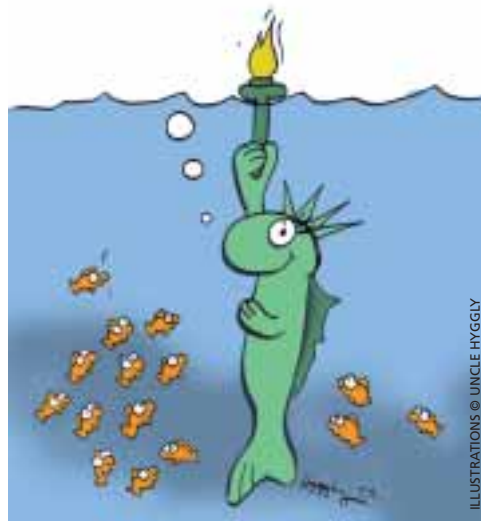
Source: Iowa State University Center for Crops Utilization, [www.ag.iastate.edu/centers/ccur/](http://www.ag.iastate.edu/centers/ccur/); Dr. Perminus Mungara, (515) 294-9673.

## Hungry for American fish

Aquaculture now supplies one-third of the world's fish and seafood, up from 19 percent in 1990. The global aquaculture industry is valued at nearly \$50 billion.

So far, the United States has been a minor player in the aquaculture revolution. Most farm-raised fish is produced in Asia; the United States imports over \$9 billion worth of seafood and fish annually. The resulting \$6.5 billion fisheries trade deficit is the largest of any food and agriculture commodity and the second largest, after petroleum, among natural products.

Source: Agricultural Research, December



ILLUSTRATIONS © UNCLE HYGGY

2001.

## Lycopene in a shrub

Ounce for ounce, the autumn olive shrub's brilliant red berries have up to 17 times more lycopene than raw tomatoes. If future studies show that people readily absorb lycopene from the berry, it could become a processed-food ingredient.

Lycopene has generated widespread interest as a possible deterrent to heart disease and cancers of the prostate, cervix and gastrointestinal tract.

Source: Ingrid M. Fordham, USDA-ARS Fruit Laboratory, (301) 504-7649, ext. 456, e-mail: [fordhami@ba.ars.usda.gov](mailto:fordhami@ba.ars.usda.gov)

## Juice to grow on

School children in the Dominican Republic's government meal program are drinking a high-protein soy juice produced by Bon Agro Industriales in partnership with the American Soybean Association.

Children's diets in this country are often calorie-rich but protein poor. Lack of refrigeration limits the storage and distribution of perishable products, including milk and meat. The soy-isolate juice, claimed to enhance children's growth and development, is shipped in "tetra paks" that do not require refrigeration.

The American Soybean Association partners with industry with a stated goal of overcoming challenges common to emerging nations.

Source: Illinois Soybean Checkoff Board, (309) 663-7692, [www.ilsoy.org](http://www.ilsoy.org)

## Soymato

Evidence suggests both soy and tomato products help fight cancer. Could they boost each other's protective effect? With a \$1.27 million USDA grant, Ohio State University researchers will study that question for three years. First, researchers will develop a new tomato-soy juice, soup or sauce.

Source: Yael Vodovotz, (614) 247-7696, [vodovotz.1@osu.edu](mailto:vodovotz.1@osu.edu)

## Fermenting away high blood pressure

In Japan, fermented milk drinks have been clinically proven to reduce high blood pressure. Fermentation breaks down casein and releases ACE-inhibiting peptides, which regulate an enzyme that controls blood pressure. Irish researchers are looking into increasing the concentration of ACE-inhibitory peptides in milk.

Source: The Furrow, November 2001.

## Viva local logos

More than 650 growers and marketers purchased licenses to use Minnesota Grown logos in 2001. The Minnesota Department of Agriculture reports that consumers look for Minnesota Grown products because they taste fresher, are high quality, and buyers want to support the local economy.

Source: [www.mngrown.org](http://www.mngrown.org)

## \$260 million for bioenergy

The USDA will make \$260 million in loans and grants available for 24 states to boost bioenergy production, expand rural business ventures and improve economic and community development. Funds will help communities produce alternative fuels and strengthen rural economies," said Secretary of Agriculture Ann Veneman.

Source: Doane's Agricultural Report, December 21, 2001.

## Wild and oily

A wild plant called Cuphea may one day be a cash crop. It is rich in oils, including lauric oil, which is used in soaps, shampoos, detergents and high-energy foods. Cuphea research is being conducted at USDA's Morris, Minn. lab.

Source: Progressive Farmer, February 2002.

## Home plate for striped bass

Illinois, Kentucky, Missouri and Kansas are ideal for hybrid striped bass. "The climate is not too warm, not too cold," says Christopher C. Kohler, director of Southern Illinois University-Carbondale's Fisheries and Illinois Aquaculture Center. "There's tremendous potential for development of this industry in our region." SIUC held a day-long aquaculture workshop in February to discuss aquaculture opportunities.

Source: Mary Carruthers, (618) 536-7761, [siucnews@siu.edu](mailto:siucnews@siu.edu)

## Official fiber

PLA now joins other fiber classes, including cotton, wool, silk, nylon and polyesters, as a recognized generic fiber. For a fiber to be classified PLA it must be manufactured from polylactic acid or poly lactate derived from natural sugars, such as those in corn or sugar beets. Cargill Dow, LLC received the designation for its NatureWorks fiber from the Federal Trade Commission.

Source: [www.cdply.com/release](http://www.cdply.com/release)

## Splashy potatoes

Orange mashed potatoes? Purple french fries? Colorful Andean potatoes may provide health benefits as well as new flavors, say researchers with the ARS Vegetable and Forage Crops Production Research Unit in Prosser, Wash. They have developed potatoes with more than four times the antioxidant potential of current commercial varieties.

Source: Charles R. Brown, (509) 786-9252; e-mail: [cbrown@tricity.wsu.edu](mailto:cbrown@tricity.wsu.edu)



ELSEWHERE TO PAGE 15

# Ag Web sites



MONITOR PHOTO COURTESY APPLE.COM, PIGLET PHOTO COURTESY ARC

BY JENNIFER PENA

The sites below may seem “a little of this” and “a little of that,” but they all contain serious information about agriculture. Some are commercial sites with helpful links to other ag sites. Remember to stop at [www.auri.org](http://www.auri.org) to check out our latest news, too.

## Blue House

[www.blue-house.com/farming](http://www.blue-house.com/farming)

Blue House Links offers browsers a quality list of “the best farming and agriculture sites on the Internet,” updated weekly, with brief site descriptions. It includes links to family farms, government sites, academic information and much more. Surfers will find plenty of in-depth content here.

## Westbridge Research Group

[www.westbridge.com](http://www.westbridge.com)

Westbridge Research Group specializes in value-added products such as biological pesticides, organic fertilizers and odor control. Get detailed product information, take a plant growth regulator virtual tour, request information or services, or read about ag and environmental products in the news.

## Gempler's Farm Store

[www.gemplers.com](http://www.gemplers.com)

Gempler's boasts that browsers can search for more than 11,000 hard-to-find products for agriculture, horticulture and grounds maintenance. The store offers more than 150 brand names, a 100 percent guarantee on everything sold, and clearance specials to boot. A great place for quick, safe, on-line shopping.



## PowerFarm

[www.powerfarm.com](http://www.powerfarm.com)

From seed to chemicals to fertilizer to software, PowerFarm is a “one-stop, single-source power tool for farmers.” Ag Services of America, Inc. developed this division to give customers Internet access to services and products. Check out financing options, buy some equipment, use the Corn Yield Estimate calculator or “Ask the Agronomist” a question.

## AgDayta

[www.agdayta.com](http://www.agdayta.com)

AgDayta is a potpourri of all the “information you need to run your agricultural business.” AgDayta covers futures and options, livestock information and pricing, grains and weather, plus more options for members. Try a free 7-day trial and see what AgDayta has to offer.

## BullTrend Investments

[www.bulltrend.com](http://www.bulltrend.com)

BullTrend runs a custom cattle-feeding operation to allow everyday folks to get involved in the feeding market. Feeders can purchase a fraction of a cattle pen, and BullTrend will cover the rest. BullTrend also

offers a variety of risk management services, Breakeven software for projecting returns, weather information and links, plus more. If the cattle market interests you, this is a good place to get started.

## City Farmer

[www.cityfarmer.org](http://www.cityfarmer.org)

The nonprofit Vancouver-based City Farmer organization has been collecting data on urban agriculture for 23 years. Click to information about urban agriculture in North America, hydroponics, water, even children. Urban Agriculture Notes is written for those who want to start or continue their own “Office of Urban Agriculture” and for gardeners who are curious about political horticulture.

## The Ag Center

[www.agcenter.com](http://www.agcenter.com)

The Ag Center wants you to find everything on cattle and grain markets. So they have gathered up a full Web site and promise continuous updates. Surf the latest news on “The Cattle Report,” read about feedyards, search agricultural jobs around the country, then check out the AgTalk discussion forum.



# GREASE MONEY\$

## Soy-based industrial lubricants may build profits for Cortec Corporation

BY DAN LEMKE

*St. Paul, Minn.* — A Minnesota company is greasing the way for soy-based lubricants to move into global industrial markets.

Cortec Corporation finds soy-based products a natural fit for its position as a worldwide leader in environmentally-sound, biodegradable, corrosion-control products. The company is rolling out soy-based greases to lubricate and protect industrial machinery from rust and corrosion.



"We've enhanced soy greases by adding our corrosion inhibitors," says Art Albrecht, Cortec vice president of research and development. "Plus, (soy) products have become more economical. We're looking forward to making them available."

One of the first companies in Minnesota to achieve ISO 14001 certification, Cortec holds more than 20 patents for corrosion and rust-inhibiting products and processes. Since its beginnings in the late 1970s, the company has caught the attention and business of some of the world's largest customers — General Motors, Nokia, Daimler-Chrysler and the U.S. military.

Cortec offers a long list of corrosion control products including films, sprays and packaging materials. Its EcoLine™ already includes surface cleaners, cutting fluids, lubricants and rust inhibitors with soybean oil. The newest EcoLine soy greases include a bar and chain oil, food machinery lubricating grease and heavy-duty grease.

"Not only do these products lubricate well, we've also drastically increased the corrosion protection," says Alla Furman, senior corrosion engineer. "Some of the ingredients used in food processing can be very corrosive. Also, the equipment isn't always in use, so the grease needs to provide protection while it's in storage."

Cortec's latest venture into new soy-based products has been supported by AURI and the Minnesota Soybean Research and Promotion Council. Lubricants and greases are key areas identified by soybean market promoters. "We like to see some of the soybean oil being moved out of the market and into higher value products like the greases," says Max Norris, AURI oils scientist.

*Cortec products can be ordered on-line at [www.cortecvci.com](http://www.cortecvci.com).* ■

## AURI at work

### AURI assistance provided to Cortec includes:

- Outsourcing technical assistance
- Supporting research and development



ELSEWHERE FROM PAGE 13

## Aquaculture is cool

A 50,000-square-foot facility for investigating cool- and cold-water fish production has opened in Leetown, W. Va. The center will research genetics and breeding, health and nutrition for species that thrive in temperatures ranging from 39 to 68 degrees F.

Domestic aquaculture now meets 10 percent of U.S. consumer needs and ranks 10th in the world for production value. Eventually, scientists at the new center will develop collaborative programs with other state and national research institutions.

*Source: William Hershberger, National Center for Cool and Cold Water Aquaculture, (304) 724-8340.*

## Biodiesel in Illinois

FS/GROWMARK cooperatives throughout Illinois are now offering on-farm biodiesel in blends from 2 to 20 percent. Although primarily selling to farmers, FS also markets biodiesel to consumers, businesses and fuel purchasers. A recent boost for business: John Deere has approved soy-diesel fuel for use in its diesel-powered products.

*Source: Gail Miller, GROWMARK, (309) 557-6184.*

## Siouxland feeds ethanol stream

A little over a year after breaking ground for a 14-million-gallon ethanol plant, Siouxland Energy & Livestock Cooperative began producing ethanol in December 2001.

The Sioux Center, Iowa company is one of two plants in the United States using high-moisture corn to produce ethanol. The plant is located next to a feedlot — the market for Siouxland's feed coproducts. The Iowa Corn Promotion Board says six more farmer-owned ethanol plants are expected to be on line in Iowa over the next two years.

*Source: [www.iowacorn.org](http://www.iowacorn.org)*

## Computer-controlled process yields nutrient-rich compost

**DIRTY BUSINESS** FROM PAGE 3

optimum temperatures within the bins, recycling leachate and channeling exhaust to reduce odors. Each compost batch cooks about six months while heat and beneficial bacteria transform the wastes into clean, odorless humus.

Humus supports plant growth by improving soil texture and water retention and providing beneficial microorganisms. It also provides essential nutrients — nitrogen, potassium and phosphorus — as well as micronutrients such as calcium and magnesium.

Mississippi Topsoils has a capacity of about 50,000 bags a year, Matuska says. Since production costs are relatively high, it is necessary to market the compost at a premium. But that is all part of the plan.

"We're following a marketing plan that was set up with assistance from AURI," Matuska says. "Because of the cost of our process it makes sense that (the compost) needs to command a higher price."

### Quality's in the bag

AURI project development director Michael Sparby says more work is being done with Mississippi Topsoils, including efforts to identify other ingredients to create even better compost. "We're continuing to enhance an already good product."

Customer feedback has shown Matuska that if they continue to turn out a quality product, consumers will be willing to pay a little more.

"When people buy a \$70 tree, spending \$6 on a bag of premium compost that will really help it grow isn't a bad deal," he contends. "We found that price wasn't a driving force. Quality was." ■

Erik Hansen attaches air pipes to 20-ton sealed compost bins.



**QUICK FACT:** SoyLink expects to sign up about 1,000 farmers with a total investment of \$8 to \$13 million.

# Working out the links

## SoyLink producers plan to boost value of identity-preserved and food-quality soybeans

BY GREG BOOTH

*Crookston, Minn.* — Minnesota's top cash crop could travel the world as food and drink if a new farmer-owned processor of identity-preserved and food-grade soybeans brings enough investment on board.

SoyLink, LLC, a subsidiary of the producer-owned cooperative FarmConnect and a partner with investment group Soy Driven Enterprises, started an equity drive in February. SoyLink expects to sign up about 1,000 farmers with a total investment of \$8 to \$13 million, says Brent Sorenson, FarmConnect CEO.

FarmConnect members include 649 Minnesota crop and livestock producers. The co-op uses a processing plant in Oskaloosa, Iowa, where identity-preserved soybeans are made into powder for soy drinks and dairy replacement products, Sorenson says.

SoyLink is "an opportunity for (producers) to integrate into the supply chain of the food system and share the retail dollar," says FarmConnect President Gary Sabolik. "This is a real model project to carry some of that value back to the farm."

SoyLink members "will be raising certain genetics, providing traceable food ingredients to the food industry," Sorenson says. FarmConnect research shows that could add a \$1.50

premium per-bushel return over 10 years; marketing soybeans as food grade could add another \$1.50.

U.S. soy-food sales top \$3 billion a year and are increasing about 20 percent annually, according to FarmConnect figures.

Focus groups have shown "very positive feedback," Sabolik says, with 50 percent of focus group farmers indicating they would invest \$15,000 to \$20,000 each. He says Farm Credit has agreed to finance 100 percent of a farmer's investment.

SoyLink's ingredients for soy beverages have been tested and analyzed by AURI food scientist Charan Wadhawan. The drinks scored a 60 percent acceptability among tasters, she says. AURI also helped SoyLink with business planning, says Sorenson, who managed AURI's Crookston field office before joining FarmConnect.

FarmConnect's venture has been aided by a "who's who" of Minnesota agriculture, including the Minnesota Department of Agriculture, Minnesota Soybean Growers Association, Minnesota Trade Office, Minnesota Wheat Growers Association and Minnesota Corn Growers Association.

For more information, visit FarmConnect's Web site at [www.farmconnect.com](http://www.farmconnect.com) ■

