



AG INNOVATION NEWS

The newspaper of the Agricultural Utilization Research Institute

The life and times of an entrepreneur

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*Four-part series follows
Tiffany Family Farms for one year*

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Inside this issue...

Making every vote (and idea) count

By Edgar Olson
Executive Director

After watching recent election results and the legal and political wrangling, we Americans should never again doubt the value of our vote. Razor-thin margins and recounts show the power of an individual choice.

Individual choices are powerful in agriculture, too. A single venture has greater impact than we realize. One poultry manure-fired power plant in Benson is expected to create 30 jobs, dozens of spin-off jobs and generate more than \$8 million for the local economy. One average dairy farm supports 5 or 6 jobs in production, processing and marketing. Retail spending from that income creates at least one more job.

Add it all up and the Minnesota dairy

industry generates more than 53,000 jobs, according to a University of Minnesota study. With over \$1 billion in income to dairy producers and processors and nearly \$1 billion to spin-off industries, the dairy industry is a huge contributor to the state's economy.

The U of M study shows the state's poultry industry is responsible for more than 26,000 jobs — 10,000 in production and processing and over 16,000 in spin-off industries. Those 26,000 people earned more than \$900 million in income during 1996.

Agricultural industries do not just impact agriculture. A grain producer impacts grain elevators, truckers,



Olson.

cereal producers, retailers and many others. This ripple effect is evidence that many industries are tied to agriculture's success whether they know it or not.

Value-added agriculture accounts for about \$22 billion of the state's economy each year. This not only includes the value of raw commodities and processing, but also the jobs and spin-off industries reliant on those value-added enterprises.

That is why AURI supports new and innovative uses for farm commodities. Every individual enterprise ripples into more income, more jobs and more value for the state.

NEWS BRIEFS

Mexico trip means turkey business

Marshall, Minn. — A business development mission to Mexico may yield new markets for at least one Minnesota company.

Carl Wittenburg, representing Northern Pride, a turkey processing co-op, joined AURI animal products scientist Darrell Bartholomew on a trade mission to Mexico in October. Both were sponsored by AURI and the Minnesota Research and Promotion Council. The mission, which included Governor Jesse Ventura, aimed to build relationships with potential trading partners in Mexico.

Northern Pride, in Thief River Falls, processes 15,000 birds a day. Mexico has two producers that slaughter only two million birds per year, creating a market opportunity for Minnesota.

"This was a productive trip in developing contacts for exporting both turkey and pork," Bartholomew says. "We were able to make valuable contacts with business officials there



Governor Jesse Ventura with AURI's Darrell Bartholomew.

who are interested in importing turkey products, and in visiting processors here in Minnesota."

Agricultural exports to Mexico have grown an average of 12 percent annually since 1995. Mexico is currently the United States' second largest trading partner and is expected to be number one by 2010.

Editor is Emmy nominee

Ag Innovation News managing editor Cindy Green was recently nominated for an Emmy by the Minneapolis-St.

Paul chapter of the National Academy of Television Arts and Sciences. She was nominated for writing "Country Spires," a three-part television documentary that explores the history, architecture and destiny of immigrant-built rural churches of the Upper Midwest. The series has been airing on public television stations across the United States since its release last May by Pioneer Public Television in Appleton, Minn.

We at AURI congratulate Green on her fine work for the "Country Spires" series and for the continued efforts given to Ag Innovation News.

And the winner is...

Benson, Minn. has been selected as the site for a new poultry litter power plant by Fibrominn, an American subsidiary of the British company Fibrowatt. Benson was among more than 30 proposed sites for

Fibrominn's \$75 million facility. The plant will generate 50 megawatts of power by burning manure from the region's turkey barns.

Company officials estimate the plant will create 30 on-site jobs, dozens of spin-off jobs, and \$8 to 10 million in local economic impact. The Benson facility, expected to be operational by 2002, will be the first and only litter-powered plant in the United States and the largest in the world. Fibrowatt, the pioneer of poultry litter power generation, operates three plants in Great Britain.

Sleepytime wool

Harmony, Minn. — Instead of counting sheep, one Minnesota company uses its wool for a comfortable night's sleep.

High Pointe Coverings recently began manufacturing and marketing wool mattresses and pillows. "Many who've tried our products — and were skeptical at first — have commented that they've never had such a good night's sleep," says Lloyd Peterson, High Pointe Coverings vice president. He says wool absorbs moisture and humidity on warm summer nights and insulates body heat during the winter.

Unlike other mattresses, which may include a thin layer of wool on top, High Pointe's mattresses are 4 to 5 inches thick and can be placed on top of an existing mattress. Mattresses come in single, full, queen and king size, or can be made to order.

For more information, contact High Pointe Coverings at (507) 886-2864. ■

AG INNOVATION NEWS

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Ag Innovation News team gets together

The Ag Innovation News team and AURI program specialists got together this fall in Stillwater, Minn., to critique and generate ideas for the quarterly publication now in its 10th year. Left to right, back row are: Greg Booth, Charles Smith-Dewey, Dan Lemke, Kai Bjerkness, Joan Olson, Nancy Larson and Rolf Hagberg. Front row: Jody Koubsky, Lane Loeslie, Liz Morrison, Cindy Green, Mardell Jacobson and Deborah Hoeldtke.

Poppin' up hullless

Two family farms produce a popcorn easy on the tooth



PHOTO BY ROLF HAGBERG

Two central Minnesota farm families are growing "virtually-hullless" popcorn, originally developed by Cambridge-area farmer, Thomas Barnard, from multi-colored Guatemalan corn. S & W Family Farms, Inc. is marketing Harvest Delight popcorn through farmers markets and grocers.

"Thomas wanted to keep the company local," Welsh says. "He had offers from bigger companies out of state, but he wanted to keep it in Minnesota."

By Jennifer Pena

Cambridge, Minn. — A hull is vital to a boat, but in popcorn, it can be annoying. So two farm families are betting consumers will appreciate their new brand of popcorn with virtually no hull.

"People question it, then they try it," says Gail Welsh, co-owner of S & W Family Farms, Inc., producers of the popcorn. "But 'virtually hullless' is really what gets their attention."

Most of S & W's popcorn, "Harvest Delight," is ordered by phone or mail, but direct sales at farmers markets and trade shows are growing. Harvest Delight is also sold in the produce section of Rainbow Foods, Knowlans and Festival Foods.

Growing the hull out

Breeding a specialized, "virtually hullless" popcorn took some time. Well over a decade ago, Cambridge area farmer Thomas "Woody" Barnard began with just 12 ears of eight-color Guatemalan corn. Barnard painstakingly selected premium kernels, particular about colors and quality. His endeavors eventually led to the sweet small kernels of a crunchy popcorn that sold for years as "Thomas Barnard's Old Fashioned Popcorn." But his crowning achievement was the thin,

almost non-existent hull of his popcorn — a satisfying eat and kind to the teeth.

In 1999, however, Barnard, a.k.a. "Popcorn Man," was injured and could no longer market his prize product. Joining forces, Leslie and Roger Swenningson and Mike and Gail Welsh created S & W Family Farm, Inc. and bought Barnard out.

"Thomas wanted to keep the company local," Welsh says. "He had offers from bigger companies out of state, but he wanted to keep it in Minnesota."

Peddling the popcorn

Barnard had only sold his popcorn in a 30 to 40 mile radius, refusing to tackle the Twin Cities markets. "It's difficult to get a product like this going," Welsh says. "It's really like a brand new product. There was no UPC code, the product wasn't being sold in very many places, and it is hard to get into stores."

Raising the corn isn't simple either. The crop must be "babied" along. "It grows on a small stalk that's very sensitive," Welsh says. "But it's worth the extra work. We are just as

Hulless Caramel Clusters

2 quarts Harvest Delight hulless popcorn, popped (1/2 cup unpopped kernels)

40 caramel squares (14 oz.)

1 cup salted peanuts

2 Tbs. half & half

Pop Harvest Delight hulless popcorn and place in a 4-qt. bowl. Stir in peanuts and set aside.

In saucepan, combine caramel squares and half & half. Cook on medium-high heat for about 3 minutes, stirring often until mixture comes to a boil. Gradually stir caramel mixture into the popcorn and peanuts until well coated.

Spoon caramel-coated popcorn clusters onto waxed paper and let cool completely. Makes about 8 cups.



dedicated to the same high quality and standards that Thomas Barnard displayed."

S & W renamed the popcorn "Harvest Delight" and gave the packaging a makeover. In the beginning, they sold only to farmers markets, selling about 250 pounds over the weekends. "It's growing in

Poppin' up hullless

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THE BISON BAND



PHOTOS BY ROLF HAGBERG

NINE MINNESOTA BISON PRODUCERS SOLVE SUPPLY PROBLEMS COOPERATIVELY.

Buffalo roam on Kandiyohi County pastureland owned by John Arndt, one of more than 150 Minnesota farmers who raise bison commercially. Producers have joined to create Minnesota Bison Marketing, a new generation cooperative where farmers share processing costs and sell meat back to members for retailing.

By E. M. Morrison

Perham, Minn. —

A small group of Minnesota bison farmers who sell directly to consumers have locked in their access to a steady supply of bison at wholesale prices.

The members of Minnesota Bison Marketing, a new-generation cooperative, share the costs of processing, storage and inventory. It's a simple arrangement: they buy and butcher members' bison, then sell products back to members, who retail the meat to the public.

'Small guys' with big animals

Frank and Irene Hendricks operate Pine Grove Bison in Perham, raising breeding stock and meat on 160 acres of rolling hayfields and pasture. The Hendrickses slaughter about five finished bulls a year, not enough to supply their customers — summer residents, tourists and specialty gift shops. "By July we usually run out

of hamburger," Frank Hendricks says. "So we have to buy quite a lot, too."

Recently, Pine Grove Bison and other small Minnesota bison businesses lost their main supplier, the North American Bison Cooperative. The New Rockford, N.D. co-op, which processes about 60 percent of the U. S. bison crop, began requiring 500-pound minimum orders. "That's too much for most small meat purveyors," Hendricks says.

To serve themselves, nine small-scale bison farmers kicked in \$500 each last spring to organize the Minnesota Bison Marketing Cooperative. They worked with the Department of Agriculture to develop a distinctive logo and label. AURI assisted with direct marketing materials, and the Small Business Development Center in Brainerd helped the co-op create a business plan.

Bison must be the best

To ensure uniform quality, the co-op hired a meat consultant to oversee slaughtering and

butchering. The bison is processed and packaged in clear freezer packs at a federally inspected plant in Miltona, Minn. Minnesota Bison Marketing offers steaks, roasts, ribs and hamburger, plus specialty meats such as bison brats, wieners, sausage and jerky.

Top quality is essential for a new consumer product like bison, says Willmar producer John Arndt, secretary of the new cooperative. "If (consumers) get a bad piece of beef, (they) just go out and buy some more. But if people try buffalo for the first time and it's bad, we don't get a second chance."

The co-op processes "all young, choice, prime animals, so all the meat that hits the market is top-of-the-line," Arndt adds.

A supply at wholesale

In its first six months of operation, the cooperative slaughtered 24 animals and posted sales of \$20,000. Eventually, the co-op hopes to slaughter about 16 bison a month.

*"If there is an animal ingrained
in the American consciousness,
it's the buffalo."*

—John Arndt



While the cooperative needs enough margin to cover the costs of livestock, processing, storage and promotion, it doesn't aim to make a profit, says Hendricks, president. "We resell to our members at cost."

All the co-op's products appear under the Minnesota Bison Marketing logo. But members serve their own accounts and set their own prices for bison products, which usually retail for about twice the price of beef. "Members buy back only what they are able to sell, so they don't have money tied up in cuts of meat they can't sell," Hendricks says.

At the same time, co-op members can count on a ready supply of the meat customers want. For example, the co-op sold 450 pounds of bison roasts to a member who was supplying a special event. "Very few producers would have that quantity of roasts available themselves," Hendricks says.

Nurturing a new industry

The bison industry is still small. The Minnesota Buffalo Association estimates there are about 8,000 head of bison on state farms. But numbers are growing steadily, says Hendricks, a retired cattleman and equipment operator who started raising bison as a hobby.

Minnesota Bison Marketing is a smart way to nurture this new livestock industry, says Michael Sparby, manager of AURI's Morris office.

"By cooperating on slaughter and processing, producers are no longer restricted to marketing single animals at a time. Instead of five or ten different labels, they have one." Most important, Sparby says, farmers maintain control of the processing.

John Arndt agrees: "With this new industry, we are hoping to move up the food chain and eliminate the middlemen, where most of the profits go." ■



Selling bison mystique

By E. M. Morrison

Willmar, Minn. — Once the hills and plains of Minnesota swelled with herds of bison, moving over the land like vast ocean waves.

"We've all grown up reading about bison," says John Arndt, a retired educator. "If there is an animal ingrained in the American consciousness, it's the buffalo."

Every school child knows that the great bison herds were destroyed more than a century ago: by 1889, fewer than 600 bison remained in the United States, out of millions that had once ranged the Great Plains. Over the last century, however, American farmers have slowly brought the bison back.

Arndt is one of more than 150 Minnesota farmers who raise bison commercially, preserving an historic species while creating new markets for the meat.

America's original health food

John and Leila Arndt raise bison on 180 acres of pastureland bordering Solomon Lake in Kandiyohi County. It's an idyllic place — the farmstead overlooking the lake, the hardwoods folding into rolling hills, the prairie knolls studded with bison.

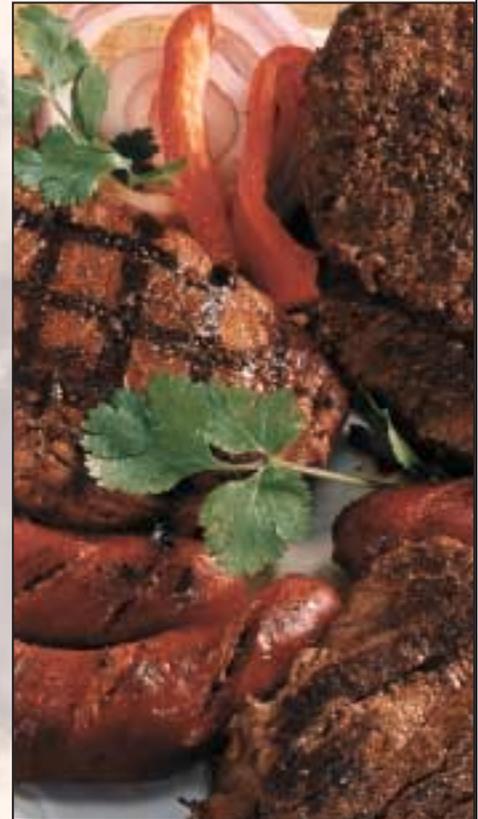
"I've always been fascinated by this majestic animal," says John Arndt, 64, who grew up on a cattle farm near Clinton, Minn. and taught carpentry at Ridgewater College for 34 years. "I always had it in my mind to get involved with them someday."

In 1986, Arndt bought five heifers from the bison herd at Blue Mounds State Park in Luverne. "We started small and steadily grew. We have 220 head on the place now." The Arndts raise bison for breeding stock and finish about 30 head a year.

Bison sustained the plains Indians for centuries. That makes it America's original health food, Arndt says. Full of flavor, bison meat has a third less fat than skinless chicken. "It's one of the few red meats that people with heart problems can consume. We call bison the red meat of the past, the red meat of the future — the red meat everybody is trying to duplicate."

Touring the range

The Arndts sell about \$30,000 of bison meat a year, mainly to area residents and restaurants.



Leila Arndt operates an on-farm store with bison products and gifts, and also ships meat all over the country. Much of their home-delivery business has been generated by tours of their ranch, John says.

Last summer, more than 2,000 visitors took the Arndts' "Home on the Range Tour," a mini-bus excursion narrated by John, who is a font of bison lore. As the bus ventures into the corral, cows and calves mill about, curious but edgy. These are still wild creatures, powerful and dangerous — especially during breeding season — capable of running 40 miles an hour, jumping five-foot fences, and putting a horn into a man's chest.

Visitors are captivated.

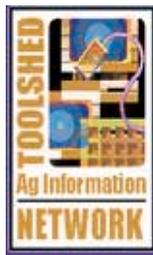
Says John, "The tours are really what has expanded our meat sales." ■

Ag Toolshed is on the Web

By Greg Booth

Red Lake Falls, Minn. — Like a local radio station, a new network of Web sites broadcasts up-to-the-minute agricultural information and resources.

The Minnesota Wheat Council board of directors “wanted a site with really good content that farmers or anyone in the agriculture industry could use on a daily basis,” says Tara Dagman, the council’s program director. The site, known as the Toolshed Ag Information Network, is “content-rich. We’re following the same concept as a radio network, broadcasting from a central location ... and distributing this information to various Web sites.”



Toolshed is a comprehensive news service with sophisticated features such as scrolling news headlines and futures market prices updated every few minutes. It includes an elevator bid

section, which can calculate commodity basis prices (the difference between futures and local elevator prices) for participating elevators.

The idea originated with the Minnesota Wheat Council. AURI supported Toolshed’s development

with help from AURI Web expert Marie Fournier and interns Stacey Bendickson and Paula Meyers. Kris Versdahl of Prairie Ag Communications also assisted with technical development.

“Our goal is to drive people to participating Web sites,” Dagman says. The Toolshed can be viewed from ag-related sites including Red River Farm Network (www.rrfn.com), Minnesota Association of Wheat Growers (www.smallgrains.org), Northwest Grain (www.northwestgrain.com) and KZZY Radio in Devil’s Lake (www.zzcountry.com). Sites pay a fee for a direct-link tab to Toolshed.

Dagman says the information should

help drive surfers back time and again to the participating sites to access up-to-date information on weather, markets and news. With RealAudio, visitors can hear broadcasts from the Red River Farm Network. Archived broadcasts and news articles are also available. And organizations and companies can purchase individual ads on the Toolshed site.

While useful for anyone wanting to find current information about the ag industry, Dagman says Toolshed is particularly targeted toward Upper Midwest producers.

For more information contact Tara Dagman, phone: (218) 253-4311, email: tdagman@gvtel.com. ■

‘All about added value’

A southern Minnesota cooperative counts on South Dakota experience

By Dan Lemke

Worthington, Minn. — Okabea farmer Paul Henning won’t settle for selling raw commodities. He’s involved instead in several ventures, including the newly formed Minnesota Soybean Processors cooperative.

“It’s all about added value,” says Henning, MnSP’s treasurer. “Farming is a struggle, so if we can put an extra 30 cents onto each bushel we sell, we’ve done something to help ourselves.”

Minnesota Soybean Processors, owned by a group of southwestern Minnesota farmers, is in the early stages of building a soybean crushing facility in the Brewster, Minn. area. MnSP envisions a plant processing 100,000 bushels per day, on line in two to three years.

Bob Kirchner, now the cooperative’s president, was one of the first involved in discussions that began more than two years ago. “We got together to discuss our own plant modeled after the South Dakota Soybean Processors plant in Volga, S.D. Our first step was to study the feasibility of a similar facility in our region. That came back in December of 1999, and the results were positive.”

MnSP sought the input and guidance of their neighbors to the west in that study, partially funded by AURI but conducted by the South Dakota Soybean Processors. The relationship has since blossomed into a five-year management and marketing agreement that will make the two plants cooperators rather than competitors.

“The number one advantage is that we are using experienced people to help with our equity drive, plus we have management on board to help us avoid some mistakes,” Kirchner says. “Normally you don’t gain that experience until you’re partly through the process. They’re already successfully operating a plant.”

Kirchner says co-management will save each enterprise about a half million dollars a year. Plus, the plants will market meal and oil products together rather than competing against one another. The Volga plant and the proposed Brewster facility are on separate rail lines so they will serve different markets.

“Climbing up the food chain is the only way producers can capture

value,” says AURI scientist Max Norris. “Converting soybeans into meal and oil will help these producers capture the value locally.”

So far, the co-op’s equity drive has raised several million dollars in construction capital. The goal is to have as many as a thousand producers co-owning the plant.

Both the Minnesota and South Dakota Soybean Processors share the goal of returning value-added profits directly to farmers, with a policy of paying a minimum of 70 percent of the current year’s profit to producers.

Kirchner hopes that will be music to farmers’ ears because “our driving motivation is to return the value back to the farm.”

For more information, contact the Minnesota Soybean Processors at P.O. Box 100, Brewster, MN 56119-0100, phone (507) 343-6677 or check the Web site: www.mnsoy.com. ■



Poppin’ up hullless

FROM PAGE 3

popularity,” Welsh says. “We sell about 700 pounds during the farmers market weekends now.”

Just do it

Both families work hard to make Harvest Delight a success. Gail and Mike, who is also a carpenter, are involved in all aspects of processing the bicolored popcorn. The Swenningsons have outside jobs as

well. Both families raise the corn on their Cambridge-area farms.

“We just do what needs to be done,” Gail says. “Each of us is involved in the whole process, from growing to cleaning to bagging and then to marketing,” she says. “I just bagged 1000 pounds yesterday by myself. It’s a full-time job on its own.”

S & W is involved in several farmers markets, targeting Minneapolis Fridays through Sundays and the Nicollet Mall on Thursdays. They reach a large scale of customers at these locations, and build repeat mail

order customers this way.

Meanwhile, S & W struggles to keep product on the shelves of big stores such as Rainbow Foods. “There is less shelf space for a new product, and it’s hard to get more,” Welsh says.

Helping hands

AURI Morris field office manager Michael Sparby and Program Specialist Jody Koubsky worked with S & W to find a marketing company and “get us off the ground,” Welsh says. Charan Wadhawan, AURI cereals and nutrition scientist, helped

S & W comply with labeling regulations.

Marketing efforts have received a boost through the state’s Minnesota Grown program and the Small Business Development Center in Brainerd.

For more information on Harvest Delight, contact Gail Welsh at S & W Family Farm, 33890 Helium St. NW, Cambridge, MN 55008, (763) 689-1346. Or visit the AURI Web site at www.auri.org/clients/swfarm.htm. ■



CERTIFIABLE PORK

Can identity-preserved standards give independent pork producers a competitive edge?

By E. M. Morrison

Hoffman, Minn. — “I kept thinking, ‘How can this be happening?’ But it was happening. All we could do was just hang on.”

That’s David Starner’s recollection of 1997-1998, when 12 months of plunging hog prices wiped out half the equity he had built farming 18 years. Starner and his brothers, the fourth generation to farm in Grant County, run an 800-sow, farrow-to-finish hog operation in Grant County.

Hog prices improved in the second half of 1999. Yet industry consolidation, global competition and changing consumer demands still threaten family farmers, Starner says. To compete, he says, independent growers must cooperate to supply “a defined raw product,” one that can be distinguished from all others in the marketplace.

Starner is leading a group of Minnesota pork producers who want to gain that competitive edge by raising certified pork.

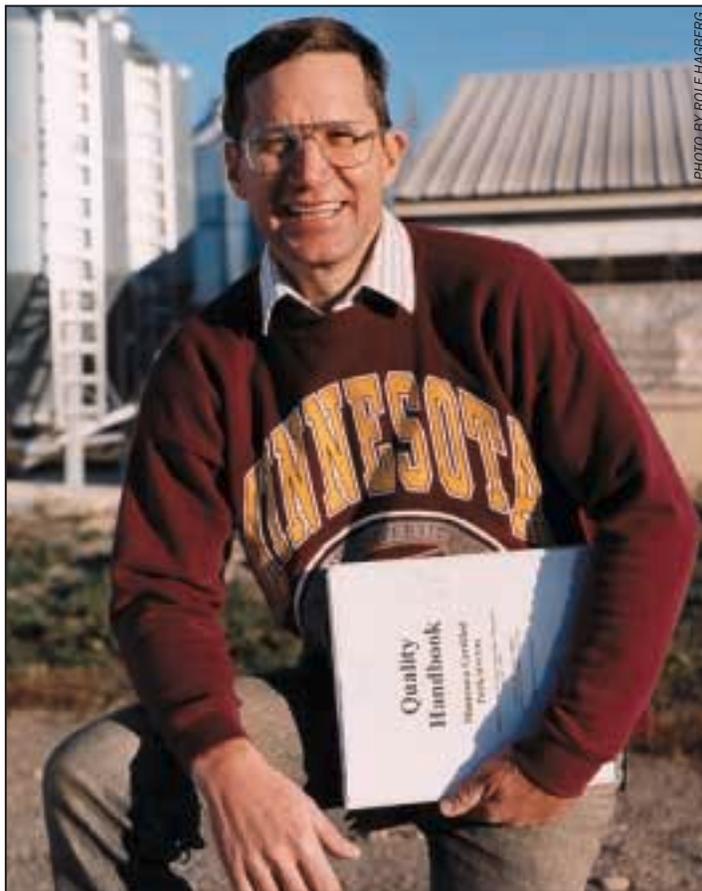
Minnesota Certified Pork, a new-generation cooperative, has developed quality assurance standards to define and document every aspect of hog production. The standards, combined with compliance certification, will enable MNCEP to offer distinctive, identity-preserved pork products. Members hope certification will give them access to specialized markets.

AURI, the University of Minnesota, and the Minnesota Department of Agriculture are helping MNCEP implement the certification plan — the first in the nation — and find markets for certified hogs. If MNCEP is successful, similar certification programs could be developed for other Minnesota farm products.

Quality assurance

The core of MNCEP is a set of quality standards that define every procedure related to raising market hogs. Developed by cooperative members and Thomas Blaha, epidemiologist, and Jerry Shurson, swine center director at the University of Minnesota, the standards emphasize food safety, efficient management and responsible stewardship. Standards include best production practices, on-farm food safety practices, environmental protection and manure management, community relations and animal well-being.

MNCEP’s quality system also requires thorough documentation to verify compliance with standards and to allow MNCEP pork to be traced back



Dave Starner is leading a group of Minnesota pork producers who want to certify their pork’s quality and production standards to gain a competitive edge.

to the farm where it was grown. The plan calls for monthly farm audits by trained inspectors. Compliance with binding standards will lead to certification by the State of Minnesota.

MNCEP standards, which took more than a year to develop, are now being implemented by 10 Minnesota hog producers who manage about 6,000 sows.

Third-party certified

Meanwhile, the Minnesota Department of Agriculture and U of M are developing a program to certify agricultural production standards like those devised by MNCEP.

Minnesota Certified, or MnCERT, was authorized last year by the Minnesota Legislature. Paul Strandberg, ag department project manager, says MnCERT will offer neutral, third-party certification that farmers have carried out the procedures necessary to back up their product claims.

The process is similar to ISO 9000

certification in the manufacturing sector, coming into play “when farmers find a market they want to supply and that market wants certain assurances about how the product is produced,” Strandberg says.

The state ag department is working with Minnesota Certified Pork to create guidelines and requirements for state certification. Eventually, those guidelines could be used to certify production methods for any Minnesota farm product, Strandberg says.

“As far as we know,” he adds, “we’re the first state to try this.”

What’s it worth?

Once all the pieces are in place, MNCEP will be able to certify whatever production methods a customer wants. What will that certification be worth?

“That’s the question,” says Starner, 50, past president of the Minnesota Pork Producers Association and past chair of the Association’s research committee. Because livestock

production methods have never before been certified, “this is like a new product launch.”

AURI helped with a survey the cooperative conducted last year to see who might be interested in certified hogs. The study identified several potential markets, which MNCEP is now exploring. The co-op is talking with a major U.S. packing company, five specialty meat distributors and several export meat brokers.

Thomas Blaha believes that Japan and Europe are excellent prospects for MNCEP certified pork. Consumers want assurances that meat has been raised and processed under strict food-safety standards, he says. Japanese meat brokers, for example, “insist on an on-farm salmonella-control program.”

Americans are also becoming more aware of how their food is raised, Strandberg says. “Look in the grocery store or on restaurant menus and you’ll see things like free range, antibiotic free, animal friendly and beyond organic. We think the markets will keep developing that way.”

MNCEP will be in a good position to supply pork tailored to these changing demands, says Michael Sparby, manager of AURI’s Morris office. “Certification pulls them out of the commodity market and into identity-preserved, which is in its infancy but growing rapidly.”

Independent or interdependent?

At this point, “MNCEP is still mostly an idea,” Starner concedes. Members are working to fulfill the quality standards, costs of compliance are uncertain, certification is pending and marketing agreements are still in the negotiating stage.

A family farmer for 20 years, Starner also understands agriculture from the processing side. As a regional manager for Jennie-O Foods in the 1970s, he oversaw the production of 1.6 million turkeys a year.

“I saw where the poultry industry went in my six years — the efficiencies, the ability to control quality. And I saw that all of agriculture would follow.”

Starner says MNCEP represents a new model for agriculture. Independent farmers, working together in alliances and cooperatives, can gain advantage and, Starner adds, “The only way we can maintain our independence is to become interdependent.” ■

The life and times of an ENTREPRENEUR

PART ONE OF
A FOUR-PART
SERIES

EDITOR'S NOTE: This year Ag Innovation News will go beyond a snapshot view and follow the life of an entrepreneur for an entire year. We will journey with farmer Bruce Tiffany, who with the help of his wife Ann has designed a new product from local farm commodities. Soon Tiffany Family Farms will launch that product into the marketplace. In this first of four installments, discover what motivates the Tiffanys to diversify their farm income, and glimpse the passion for entrepreneurship Bruce has exhibited since childhood.

By Cindy Green

Redwood Falls, Minn. — Ann Tiffany says her husband Bruce “spends too much time in the tractor thinking.”

Not content just to raise corn, wheat, peas, sweet corn, alfalfa, soybeans, sheep, cattle and hogs, Bruce also manages Quality Repair by Tiffany, a farm equipment repair shop. And now he's planning a new value-added ag product for the market — wildlife feed produced and marketed by Tiffany Family Farms.

Why is he inspired to do so much? “You drive — and get steeped in thoughts,” Bruce says. “I've always thought about how we can better utilize things and get the most good from what we have.”

Though he won't reveal specific ingredients, Tiffany is blending and pelletizing ag commodities to make Trophy Treats™, palatable to deer, wild turkeys and possibly bear. In some states it is legal to bait wildlife; in all states it is legal to feed before hunting season to establish travel paths for deer and other wildlife.

Tiffany hopes sporting good stores will carry the 10 and 40 pound bags of wildlife food.

For backyard feeders and photographers, Tiffany will market Nature's Treats™, sold in two and five-pound bags. Both products, mixtures of pellets and whole grains, are made from a proprietary blend of commodities and food processing byproducts.

“Making feed for animals is not difficult for a farmer — we make feed formulations all the time,” Bruce says. “I don't have near the dollar investment that goes into livestock feeding. But there are more unknowns.”

“I have plenty of people telling me I can't do it. That's my motivation.”

His own way

A 43-year-old Redwood Falls native, Bruce has been doing things his own way since childhood. “That's what drove my parents crazy and irritated more than one of my teachers.” He cocks an eyebrow mischievously and adds, “I kinda like it that way.”

Bruce's entrepreneurial ventures started at age 11. He raised peas and sweet corn on 40 acres that he and his brother rented from neighbors. Eventually, Bruce purchased the entire 191-acre farm — rich, rolling land along the picturesque Redwood River, a tributary of the Minnesota River.

Bruce received a degree in diversified agriculture from the University of Minnesota-Waseca, where he met Ann. They started farming and raising three boys — now 19, 17 and 14. To bring in additional income, Bruce repaired farm equipment at an implement dealership. Ann says Bruce surprised her one day when “he came home and said he quit. I said, ‘You can't do that.’ But by noon that day he had his first customer. The next day he ordered business cards.” Ann admits that starting Quality Repair by

Tiffany “is the best thing Bruce ever did.”

“I probably spend more time on the farm now,” Bruce adds. “When I was working in town, that was 45 hours per week.”

“I would look at the clock and hope it's time for coffee, then hope it's time for lunch, then hope the day is over with.” Now time flies, and with a flexible schedule he doesn't miss events like a son's football game.

Factor in personal responsibility

The care and attention Bruce and Ann give their farm and family is obvious. Ann works in early childhood education, helps Bruce with the business, and maintains their turn-of-the-century farmhouse, decorated with antiques and conversation-starters, including a porch arrangement of animal skulls her son collected. In their trimmed and tidy farmyard, even junk from the past — an old farm wagon, '58 Oldsmobile, an aging red granary — seem strategically placed.

While Ann admits they've had some lean years, she says they're doing fine with 1,500 acres and diversified income sources. Beside bulk commodities — corn, wheat and alfalfa they raise soybeans for seed; and sweet corn and peas under contract.

“People complain about how hard they work and how little they have,” Bruce says. “I'd rather change my position than complain about it. It's not up to somebody else to do it for you.”

The Tiffanys continually look for ways to add value to their crops and livestock. Several years ago, they designed a lamb product with the help of AURI meat scientist Darrell Bartholomew. They dropped marketing plans, however, because “we weren't in a situation to continue; it was a busy time of our

lives,” Ann says.

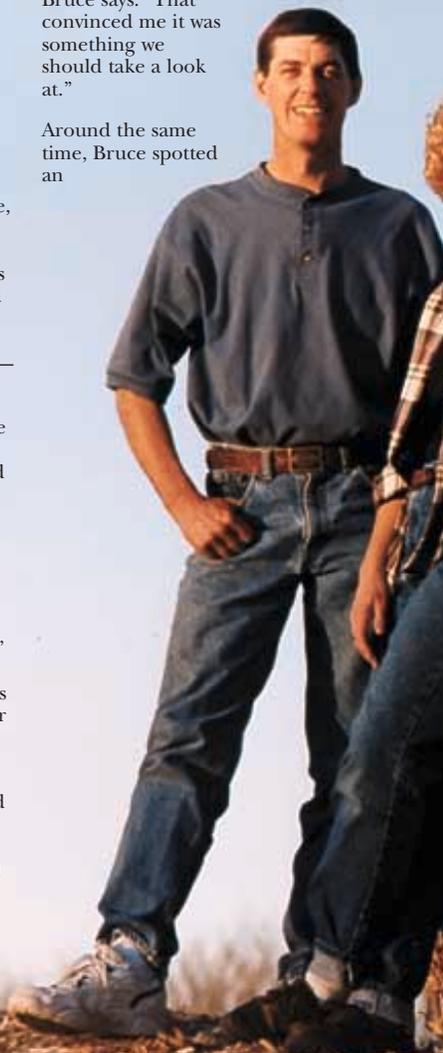
Germ of an idea

Several years ago, Bruce met a businessman at a national sheep conference who told Bruce he was selling scented corn to hunters in the South.

“We laughed, ‘Why would anyone be dumb enough to buy it?’ Then we checked to see how he was coming along, and he was doing very well,” Bruce says. “That convinced me it was something we should take a look at.”

Around the same time, Bruce spotted an

“I have plenty of peo



Tiffany Family Farms

People telling me I can't do it. That's my motivation."

Ag Innovation News article about AURI's Waseca pilot plant and pelleting equipment and contacted AURI. "When he approached us, I saw he was a go-getter," says Al Doering, a specialist at the Waseca plant. "Bruce gets his mind on something and goes for it. His enthusiasm will push the project to completion."

Doering turned various blends of commodities and food processing waste into pellets. One of the challenges was dehydrating wet ingredients enough so they would be shelf-stable but still retain their flavor.

Tiffany then set out varieties at several locations where deer were known to graze. As a control, he placed piles of apples and corn nearby, which deer favor. "What we thought

they'd like wasn't necessarily what they ate," Bruce says.

"We kept developing product until 100 percent of it was eaten by the deer," Doering says. The final mix was more appealing to the deer than apples and corn. By examining the tracks at one location, they discovered wild turkeys were also eating the pellets.

Now the Tiffanys are testing the feed on bears, although the results are not in yet.

"We want to develop a product that could be sold all year," for turkey hunting in the spring, bear hunting in the summer, deer in the fall and for backyard wildlife enthusiasts all 12 months.

Packaging and red tape

To prepare feed samples for test marketing, "we had a batch of these pellets packaged commercially and we're testing them for moisture, durability and shelf life," Doering says. When the lab work is complete, the Tiffanys plan to set up a packaging operation in a granary on their farm. "I priced equipment for bagging and decided it was cost prohibitive, so I've scrounged to find what I needed and built most of it myself," Bruce says. "But I haven't tried it yet."

Developing the product is just part of the challenge, Bruce says. They've also had to cut through masses of red tape: "Trademarks, copyrights,

registrations have all been at issue here." Setting up the company as a limited liability corporation or LLC "was more work than we thought," as was getting rights to the name and a feed manufacturer's license.

Currently, the Tiffanys are working on package design with a Redwood Falls firm and will soon present their wildlife treats to sporting good retailers and distributors.

"Marketing is always a big hurdle," Doering says. "I'd like to see his product in Cabella's and Gander Mountain. There are feed companies and independents manufacturing wildlife feeds. But I don't believe a lot of them have done the research and field checks on what these animals want. That's what will make these products stand out."

"Hunters don't want the product, they want the big buck and the wild turkey that we can help them get," Bruce adds.

As if this doesn't take enough time, Bruce still looks for every possible avenue to get more income from his farm. He holds up bundled corn stalks and asks, "How do you decorate in the fall? If this were in a store and you could take it home wrapped up nice like this, would you buy it? How much would you pay?" ■

Continue the journey with the Tiffany Family Farm in the next three issues of Ag Innovation News.

Develops wildlife feed

PRIDE OF MAIN STREET



In Sauk Centre, Helios Nutrition blends traditions of Old and New Worlds

Nine-tenths of the American towns are so alike that it is the completest boredom to wander from one to another. Always ... there is the same lumber yard, the same railroad station, the same Ford garage, the same creamery, the same box-like houses and two-story shops ...

— Sinclair Lewis, "Main Street"

By Cindy Green

Sauk Centre, Minn. — Some things haven't changed in Sinclair Lewis' hometown since he disparaged its like 80 years ago. Sauk Centre



Economy,

still claims two locally-owned banks, its own newspaper and no shopping mall. But "what was ordinary then is extraordinary today," says George Economy, adopter of the famous Main Street and the new co-owner of the town creamery, one of the state's few remaining independent dairies.

Central Minnesota Cooperative creamery is now Pride of Main Street Dairy. "We're building on traditions from 80 years ago with innovative dairy products," says Economy, founder of Helios Nutrition Ltd. He and partner Larry Karass purchased the dairy primarily to produce kefir, a fermented dairy beverage with more beneficial bacteria than yogurt. Economy is also committed to continuing the creamery's eight-decade history of processing milk and ice cream — all rBGH-free.

Milk vision a surprise

Economy never envisioned buying a small-town dairy when he founded Helios Nutrition in 1997 to produce kefir (reported in *Ag Innovation News*, April 1999). He started out with a St. Paul processor that "wasn't geared to specialty products like kefir. The dairy industry is used to high-volume, low-margin products."

Casting about for better options, Economy inspected several dairies and the Sauk Centre plant "emerged as the best." He started production in November 1999 but faced setbacks early on. First he had to find a steady supply of organic milk, obtain an interstate milk shippers' license and devote several months to tweaking production to achieve the desired quality.

"Ironically, on the day I announced

PHOTOS BY ROLF HAGBERG



To produce kefir, a fermented dairy beverage (at right), Helios Nutrition purchased one of the state's few remaining independent dairies in Sauk Centre, Minn. Pride of Main Street Dairy is continuing the creamery's eight-decade tradition of producing ice cream (at left) and milk, all rBGH free.

the batch was superb, (Central Minnesota Cooperative) announced the plant was closing." Not wanting to move, Economy shifted gears and bought the dairy.

The co-op selected Helios Nutrition's bid because it "recognized that the company's production of specialty products and access to national markets would be good for the community's future," says Economy, a former investment banker who is active in the biomedical industry and lives in Woodbury, Minn.

"Stearns County is the heart of Minnesota's dairy country and has been rated as one of the top four counties in the United States for dairy production ... the Napa Valley of dairy," Economy says. Yet, the Sauk Centre creamery is the only fluid milk processor remaining in the region.

Economy says consumers increasingly understand that buying locally supports the community and are "considering the social impact of their purchases."

Paying premiums to locals

Economy says he supports the co-op's tradition of "buying milk locally and producing locally." Pride of Main Street Dairy carries the "Minnesota Grown" logo.

Of the 12 former creamery employees, "we retained seven and have recently added two. One has worked at the creamery since before I was born — for 45 years," says Economy, who adds that they also hire part-time employees with developmental disabilities through a nonprofit program. "The dedication of the work force, the high quality, is unique in the production world."

The dairy sells milk and ice cream through independent distributors who deliver to homes and retail

stores between St. Cloud and Alexandria. "We offer the only rBGH-free, premium ice cream you can find that's moderately priced," Economy says. Pride of Main Street also co-processes products such as fruit smoothies and milkshakes with a California company.

Economy says he's willing to pay a premium to the dairy's workers and farmer-suppliers. "At a time when many rural people are employed at minimum wage with no benefits, we pay decent wages with full benefits."

Organic and rBGH-free farmers receive above-market prices. "At one point this year, our organic premium was 80 percent over the price of conventional milk. ... More farmers have gone — and others are going — organic because we provide a local market."

Identity-preserved milk with special attributes could also lead to higher premiums, he says. For example, European researchers are studying special livestock feed that may increase beneficial nutrients in milk.

Kefir, an Old World star

As a bonus, Economy provides his farmer-suppliers with a case of kefir every week. "They drink it and give it to friends. There's a growing interest," he says. Even the local rotary club asked him to talk about kefir, which has a milkshake-like consistency and is available in plain, raspberry, peach and vanilla flavors.

Ever keen on winning converts, Economy rattles off kefir's benefits. It contains more than 30 natural strains of seven beneficial bacteria and yeast — up to 1000 times more live organisms than yogurt, according to University of Minnesota tests. Antibiotics, excessive sugar consumption, toxins and stress can deplete the beneficial bacteria needed to keep the gastrointestinal and immune systems healthy to fight infections, illness and allergies.

Economy formulated kefir with the help of his wife, Linda Long, MD. His partner, Karass, heads up sales and marketing activities.

Nutritional expert Donna Gates, author of "The Body Ecology Diet," only recommends the Helios Nutrition brand of kefir. It is unique because the company



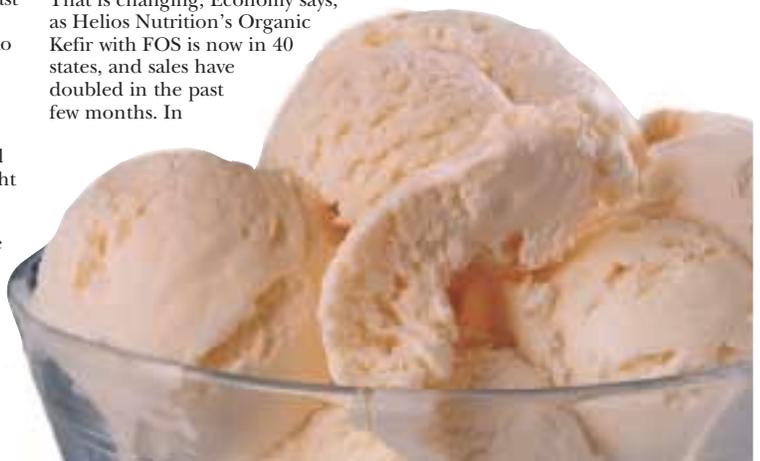
uses authentic kefir cultures from European grains and adds FOS, or fructooligosaccharides — a dietary fiber from chicory that multiplies "good guy" bifidobacteria in the GI tract by up to five times. FOS also helps the body absorb calcium and other minerals and vitamins.

"Our main competitors aren't other kefir producers, but yogurt eaters and ignorance," Economy says. Though kefir has been popular in Eastern Europe and Scandinavia for centuries, United States sales have been limited to specialty and health food stores.

That is changing, Economy says, as Helios Nutrition's Organic Kefir with FOS is now in 40 states, and sales have doubled in the past few months. In

Minnesota, it is sold in most natural foods stores as well as Coborn's, Cash Wise, Byerly's and Kowalski's.

Sauk Centre's Pride of Main Street Dairy might be in the right place at the right time, Economy says. "There are certain ideas out there at certain times that take on a life of their own. ... What was considered New Age yesterday is, in fact, Main Street today." ■



AURI's Minnesota MARKETPLACE

Following is a list of products made by AURI clients. Save this section, as Ag Innovation News will publish it only once each year. For more information and updates, visit AURI's Web site at www.auri.org

FOOD PRODUCTS

Beef sticks, beef and turkey jerky
Maple Grove Meats, Inc.
Kevin Westholter
(612) 261-2492

Bison meat products
MN Bison Marketing Cooperative
Frank Hendricks
(218) 346-3556
E-mail: bison@djam.com

Blueberries, strawberries & asparagus
Great River Gardens
Joe Riehle
(877) 286-3408
or (218) 927-2521
E-mail: jriehle@mlecmmn.net

Breads, yeast-free organic
French Meadow Bakery
Lynn Gordon
(612) 870-4740
and 1-877-No Yeast
www.frenchmeadow.com
E-mail: info@frenchmeadow.com

Cheese and bison products
Eichten's Hidden Acres
Eileen Carlson
(800) 657-6752
eichtencheeseandbison@msn.com

Creamline milk
Gemini Guernsey
(218) 845-2243

Ethnic sausage, gyro meat and sauces
Papa George Food Products
George Ghanem
(651) 430-0989

Free-range chickens
Thorson's Farm Fresh Chickens
(218) 894-3071

Free-range chickens
Kadejan
Pete Thorfinnson
(320) 634-3561

Fresh meats and deli products
Lorentz Meats & Deli
Steve Lorentz
800-535-6382 or (507) 263-3617
www.lorentzmeats.com
homemade@lorentzmeats.com

Goat cheese products
Stickney Hill Dairy, Inc.
Bradley Donnay
(320) 398-5360
www.StickneyDairy.com
E-mail: bdonnay@aol.com, or stickney@uslink.net

Grape juice, jelly, table grapes
Great River Vineyards
Barb and John Marshall
(651) 345-3531
E-mail: grapes@rconnect.com

Honey
Pure and Natural Honey
Joey Leiting
(218) 945-3531
www.purecountryhoney.com
E-mail: aleiting@yahoo.com

Kefir and rBGH-free dairy
Helios Nutrition
George Economy
(507) 389-9032

Lamb products
Country Meadow Farms Co-op
Todd Marek
(651) 982-0915

Lamb products
The Lamb Shoppe
Connie Karstens
(320) 587-6094
E-mail: lambshop@hutchtel.net

Meat, cheese, vegetables, eggs, etc.
Whole Farm Cooperative
Phil Arnold
(320) 732-4398
www.alexweb.net/wholefarmcoop
E-mail: wholefarm@rea-alp.com

OatsCream frozen dessert
American Oats, Inc.
Crystal Schachterle
(612) 824-7620
www.oatscream.com
E-mail: ameroats@oatscream.com

Ostrich products
Midwest Ostrich Coop
(319) 382-0085

Ostrich products
Ostrich Producers Co-op of the Midwest
Charles Sheets
(319) 382-0085

Popcorn - virtually hullless
S&W Family Farms, Inc.
Mike & Gail Welsh
(612) 689-4423
E-mail: Swfamilyfarm@aol.com

Pork products
Minnesota Certified Pork
Dave Starner
(320) 986-2607

Potato dumpling, klub, pancake and lefsa mixes
Penn Foods
Troy Gullekson
(218) 945-6927
www.pennfoods.com
E-mail: dumplings@pennfoods.com

Potato lefsa
Lena's Lefsa
(218) 962-3356

Prairie Smoke Barbeque Sauce
BOLT Enterprises
Lynn Arndt
(507) 274-6111
www.westbrook.mntm.org/WWGSite/Programs/BoltPages/bolt.html
bolitent@www.westbrook.mntm.org

Raspberries, blueberries, strawberries and asparagus
The Berry Patch
Kevin Edberg
(651) 433-3448
E-mail: bpberries@aol.com



Rhubarb and mixed fruit spreads
Aunt Cookie's Spreadable Fruits
Terry or Cookie Potucek
(218) 745-5589

Rhubarb and fruit wines
Forestedge Winery
Paul Shuster
(218) 224-2668
E-mail: shusters@paulbunyan.net

Shiitake mushroom soup mixes
Pete Jager
Jager Foods, Inc.
(320) 732-6925

Snack foods
Lighthouse Foods
(320) 847-3680

Soup mixes
ProVison Farms
Gary Luckow
(218) 281-5282
www.provisionfarms.com
E-mail: food@provisionfarms.com

Soybean snacks
Earthwise Snack Foods
Curt Petrich
(218) 281-1489

Spiral cut hams, sausages and meat products
Steve's Meat Market
(507) 684-2331

Spreadable fruit
RBJ's Restaurant Inc.
Kim Samuelson
(218) 281-3636
www.spreadablefruit.com
E-mail: rbsjam@rrv.net

Strawberries, blueberries, apples
J.Q. Fruit Farm
(612) 389-2567
E-mail: JQFruit@sherbtel.net

Venison, bison, rabbit, pheasant
Lofton Ridge Deer Farm
(651) 257-8638

Wild rice products
Ramy International
(507)-387-4091

Wine
Morgan Creek Vineyards
Georg and Paula Marti
(507) 947-3547

Wine, jellies, honey and wild rice
Minnesota Wild
Lori Gordon
(218) 768-4917

Zucchini relish
Angelica's Garden
(651) 772-1710

GIFT/SPECIALTY

Candles, gourmet food items, candles, etc.
Walnut Grove Mercantile
Klein Foods
(507) 537-3127

Fingerlings, bait fish and aquarium fish
Midwest Fish & Crayfish
John Reynolds
(218) 765-3030
E-mail: fishes@brainerd.net

Skin-care, lotions and ointments
Steuart Labs
Gary Steuart or Doug Baker
(507) 886-2661
www.steuartlabs.com
E-mail: steuart@means.net

Soil blends
Mississippi Topsoils
Brad Matuska
(320) 685-7676
www.composter.com/topsoils
E-mail: brad@composter.com

Soybean-based hand lotion
SoySoft, Inc.
Cliff and Lucy Larson
(800) 668-2262
www.soysoft.com
E-mail: Soysoft@soysoft.com

Soy-based fertilizer
Renaissance Fertilizers, Inc.
A.J. Hodges
1-800-395-GROW (4769)
www.organicfertilizer.com
E-mail: ajh@organicfertilizer.com

Soybean wax candles
Redwood Candle Company
Jill Anderson
(507) 644-2200
www.redwoodcandle.com
E-mail: info@redwoodcandle.com

FARM/GARDEN

Composting systems and containerized composting products
NaturTech Composting Systems
(651) 253-6255
www.composter.com/composting/naturtech
E-mail: naturtech@composter.com

Fertilizers - natural and organic
Bio Builder
Joshua Zeithamer
(320) 766-7730
E-mail: biobuild@rea-alp.com

Grain dust suppression systems
KRP Enterprises, Inc.
Robert Peterson
(320) 564-2299

Hazelnut and chestnut plants
Badgersett Research Farm
Phil Rutter
(507) 743-8570
www.badgersett.com
E-mail: electricflam@hotmail.com

Liquid foliar fertilizer
SummerSet Products, Inc.
(612) 820-0363

Manure management systems
West Central Environmental Consultants (WCEC)
Bruce Drogemueller
(320) 589-2039

PET CARE

Animal bedding and cat litter
LoneTree Pet Products
Lanny or Sharon Billings
(218) 657-2408
www.lonetreem.com
E-mail: lonetree@gvtel.com

Wheat cat litter
Pet Care Systems, Inc.
Mike Hughes
(800) SWHEATS
www.swheatscoop.com
E-mail: markh@swheatscoop.com

INDUSTRIAL

Aseptic food processing & packaging
Hoffman Aseptic Packaging, Inc.
Tom Ashley
(320) 986-2084
E-mail: hapcoalx@rea-alp.com

Corrosion protection solutions
Cortec Corporation
Art Ahlbrecht
(651) 429-1100
www.cortecvci.com/cortec
E-mail: info@cortecvci.com

Environmental consulting services
Clearwater Technologies
Del Hogan
(612) 783-7344

Food processing wastewater treatment
New Bio
Michael Gratz
(612) 476-6194
www.newbio.com
E-mail: mike@newbio.com

Waste treatment
AquaCare International, Inc.
Robert F. Haugen
(320) 589-0090
www.aquacareinternational.com
E-mail: cjhaugen@eot.com

Starch packing peanuts and plastic resins
Starch Tech, Inc.
(612) 545-5400
www.starchtech.com
E-mail: sti@tarchtech.com



Ag on the Web



PHOTO ILLUSTRATION BY CHICK DOOHEE

By Jennifer Pena

There is so much information on the Web that good sites can get lost in the midst of it all. To find what you really want may take a lot longer than you have time, so we've found a few hard-to-reach sites for you. Stop by www.auri.org on your way to the latest in ag innovation.

Hay on the 'net

www.hayexchange.com

Need hay? Here are 76 locations to choose from. Enter your own location and receive a list of sellers, prices and availability for locations near you. Check for equipment, seed or livestock for sale, or use the hay price calculator.

Goats goats goats

www.ics.uci.edu/~pazzani/4H/GoatsHome.html

Composed by a 4-H club in Irvine, Calif., this site has plenty of things to read — and hear. "Why raising goats is fun," the costs of raising goats, sources for goats, even recordings of goat sounds round out this site.

Swine buys

www.pigsale.com

Ready to cast your money after swine? PigSale.com lets you buy, sell and even cosign pigs listed on their site. "No hidden commissions or middlemen," just hundreds of buyers and sellers with access to thousands of pigs. Register with PigSale.com and enjoy Internet marketing at its finest.

Local grain prices

www.grainmarkets.com

This site by Rural Solutions Inc. was created to show local grain prices. Madison, Minn. grain farmer John Witte has made this site a customer-friendly tool equipped with both local and national grain prices and links to help browsers find other information, such as weather radar screens, world market information, Minneapolis Grain Exchange quotes and much more. Web surfers are invited to add to the lists as they wish, so check back as the site grows.

Home for farm producers

www.prairiefare.com

Home Page Farm Producers is a showcase for western Minnesota farmers who provide natural produce. The site is jointly sponsored by the North Central Region's Sustainable Agriculture Research and Education Program, Western Minnesota Sustainable Farming Association and the Land Stewardship Project. It is a small, easy-to-manuever site complete with a list of producers, their contact information and products neatly laid out on one page, with a browser-friendly location map on another. Or visit the Java River Sustainable Community Cafe page and read about the PrairieFare.com kiosk that the Cafe plans to install.

Ag guide

www.agguide.com

Agri-Guide, a bimonthly publication, also has its own Web place. Browse through dealer specials, do an equipment search or read up on the latest market info, news and weather. See the latest monthly "feature farm" story, join the mailing list, then hop over to the classifieds. There's plenty to see and do here.

New farm options

www.uwex.edu/ces/agmarkets.

Information on alternative crops and new farm-food ventures can be found at this University of Wisconsin Extension Web page for emerging ag markets.

Changing countryside

www.agecon.ag.ohio-state.edu/Faculty/Programs/Swank/index.html.

Increasing populations in rural areas create more opportunities for farmers to sell ag products directly to consumers. Demand for landscaping and horticultural products such as trees, shrubs and flowers also increases. Visit this site to see a full report titled "Agricultural Change by Metropolitan Character in Ohio: 1978 to 1997."

The White Pine Society

www.whitepines.org

Minnesota's white pine population has dwindled so much over the years that only two percent, or 67,000 acres, of the once 3.6 million acres now exist. This site is dedicated to informing the public of the majestic white pines' plight and the fight to keep them from vanishing completely. Learn more about white pines, what has caused the shortage, and what you can do to help. ■

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.

Cash pumps into biofuels

The USDA announced a two-year, \$300 million program to increase production of biofuels such as ethanol and biodiesel. Under the program, the Commodity Credit Corporation will pay cash incentives to bioenergy producers who increase their purchases of eligible commodities such as corn and convert them to biofuels. The new program could help as many as 58 facilities in 18 states.

Source: www.ncga.com

Back in Kansas ...

Kansas has a new center to help smaller farms add income sources. The Center for Sustainable Agriculture and Alternative Crops, established by the Kansas legislature, targets operations whose gross income per year is less than \$250,000. The Center also provides research and market development information for new crop opportunities.

Source: For more information call (785) 532-7419 or visit www.oznet.ksu.edu/kcsaac.

Turning back the clock

The National Institutes of Health will invest \$7.8 million over five years in the Botanical Center for Age-Related Diseases, led by Purdue University with collaboration from the University of Alabama-Birmingham.

The funds will help the Center test ag products for health benefits. One project tests soy products for the ability to replace estrogen and protect against bone loss in post-menopausal women, another studies compounds in green tea for their ability to inhibit tumor growth. Additionally, grape and berry products will be studied for their ability to protect against the oxidative stress damage that leads to cognitive loss during aging.

Source: Purdue University, (765) 494-2096, writer Jeanne Norberg, e-mail: jnorberg@uns.purdue.edu



Full of beans

Old folks fare better if they're full of beans — soybeans, that is. Nutrition researchers from Southern Illinois University-Carbondale found when they used soy products in meals that nursing home residents were already eating, the residents' protein intake increased nearly 20 percent, even though they didn't eat more food.

Insufficient protein leads to loss of lean muscle mass and immune system problems. Recognizing soy's health benefits, the Illinois Department of Public Health has revised its guidelines for long-term care facilities to allow the addition of soy foods as a major source of dietary protein.

Source: Jeanette M. Endres, www.siu.edu/~endres.

Berry high returns

According to agricultural economist with Ohio State Extension, black raspberries in Ohio generate an annual return of \$1,575 per acre from pick-your-own operations and \$1,063 per acre from pre-picked retail. Strawberries earn \$495 per "pick-your-own" acre and \$150 prepicked. In comparison, no-till corn averages only \$13 per acre of annual profit and no-till soybeans \$16 per acre.

Source: Sandy Kuhn, Berry Coordinator, Centers at Piketon at (800) 297-2072, e-mail: kuhn.37@osu.edu.

Squeezing more from livestock

As profits are being squeezed for producers of traditional livestock in Iowa, some entrepreneurs are turning to alternative livestock, according to the 2000 Iowa Farm and Rural Life Poll.

Among some 3,000 farm operators who responded to this year's poll, the largest alternative livestock enterprise is aquaculture, reported by 113 farmers. Other species with significant numbers include pheasants, quail and goats. Between 10 to 15 farmers produce buffalo, fallow deer, fox, mink, llamas or snapping turtles, and fewer than 10 are raising elk, emu, ostrich or rheas. More than 20 percent of respondents expressed an interest in raising pheasant, quail or fish.

Source: Extension Distribution Center, (515) 294-5247, mailto: pubdist@iastate.edu, or Paul Lasley, Iowa State University, Extension Sociology, e-mail: plasley@iastate.edu.

American-Japanese pig

A Nebraska pork producer raises Berkshire pigs for the Japanese market, which prefers hogs with dark, marbled pork. He earns \$9.50 per hundredweight above the base price for his pigs.

Source: Al Prosch, Coordinator, Pork Central, 800-767-5287, www.unl.edu/porkctr.

'Bran' new partners

ADM and the National Corn Growers Association have formed a two-year research partnership to expand corn markets. The goal is to create a commercial manufacturing process to convert corn fiber or bran into higher-value products, including chemical feedstocks and ethanol.

Today fiber separated from the corn kernel during wet milling is a low-value byproduct known as corn gluten feed. Tomorrow, it might be antifreeze or cosmetics. The proposed market could ultimately be valued at \$5 billion.

Source: Doane's Agricultural Report, September 22, 2000.

Don't inhale — filter first

A biofilter material made of wood chips, horse manure, sawdust, straw and cornstalks controls odors from exhaust fans in a college farrowing facility. The odor from the biofilter is similar to that of soil after a rain, says livestock field specialist Terry Steinhart of Kirkwood Swine Facility at Kirkwood Community College in Cedar Rapids, Iowa.

Source: Terry Steinhart, Keokuk county Extension 515-622-2680, mailto: tsteinha@iastate.edu.

Egg-stra co-op value

Golden Oval Eggs is shipping tanker trucks of liquid eggs to fast food restaurants, the baking industry and companies that make processed egg products for grocery stores. The ninth barn of a planned 2.7 million-bird egg plant is scheduled to be completed in late 2001.

Golden Oval is a closed co-op formed in Renville, Minn. in 1991. It held a stock offering in Iowa last year, expanding the co-op by about 250 members.

Source: *Successful Farming*, Sept. 2000

Shrimp in the desert

A shrimp farm has been built in the middle of the desert near Gila Bend, Arizona. Desert Sweet Shrimp, LLC, is an outgrowth of Wood Brothers Farm, which has produced irrigated cotton, olives, wheat and other crops on 1,000-plus acres for more than 50 years. Now the farm is irrigating cropland with shrimp effluent containing about 25 pounds of nitrogen fertilizer per acre-foot of water. That's free fertilizer for the crops, and shrimp do better in well water than ocean water, according to *The Furrow* magazine.

Source: *The Furrow*.

Something to croak about

Bullfrog farming is growing by leaps and bounds. Brazil and Taiwan are the world's leading producers, but large farms have been established in Mexico, Central America and Ecuador. The back legs, which make up about 50 percent of a mature frog's weight, are marketed for human consumption. Skin is used to make shoes, purses, belts and wallets.

Source: *The Furrow*. ■



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AURI Guide to Services



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 expertise to clients conducting new product research and development.

A brief overview of AURI's services to Minnesota business and agriculture follows. For more information, contact the field office nearest you.

Initial Project Assessment

An Initial Project Assessment helps determine the feasibility of an ag-based product or technology before the applicant invests a great deal of time and money. If an Initial Project Assessment shows a product or process is viable, the applicant may use the results to develop a business plan and/or:

1. Commercialize a new product directly,
2. Secure additional financial support from other lenders or investors, and/or
3. Apply to other AURI programs for additional financial and/or technical support.

Applicants must demonstrate their projects will impact the use of traditional or alternative crops and livestock. The Initial Project Assessment program is designed to add value to agricultural commodities and foster long-term economic growth. It is not intended to finance traditional crop or livestock production.

Market Assessment Program

The Market Assessment Program identifies new or alternative market opportunities that add value to Minnesota farm commodities and benefit the state's producers. The program also helps organizations implement these opportunities.

The Market Assessment Program is open to farm organizations, commodity groups, grower associations, agribusiness groups, public entities, nonprofit organizations and/or producer groups that can demonstrate their projects will create new markets for Minnesota producers. The program is specifically designed for projects where a business or research partner is not yet involved in the commercialization process. It is not intended to finance crop or livestock production.

Technology Transfer

The Technology Transfer program assists in transferring technology, developed at private and public entities, to Minnesota businesses. The program is intended to create value-added agricultural opportunities for private businesses and/or producers using Minnesota farm commodities.

The Technology Transfer program is available to applicants who can demonstrate that their technology will impact the use of traditional or alternative crops and livestock and foster long-term economic growth. It is designed to identify and develop value-added technologies, not to finance conventional crop or livestock production research or technologies.

PRO – Pesticide Reduction Options

The PRO program funds research and demonstration projects intended to reduce the use of petroleum-based products in farm production. This competitive grants program requests proposals once a year. Watch *Ag Innovation News* for details or contact Edward Wene, 1-800-279-5010.

Applied Research Services

AURI's applied research services complement the technical and financial assistance provided to clients. The Institute's scientific staff works with agribusinesses, university scientists, federal labs and commodity groups to access new technology and

link it with commercial partners.

Focus areas and contacts include:

Alternative fuels, fats and oils

Max Norris
(507) 537-7440

Food products/cereals

Charan Wadhawan
1-800-279-5010

Meat products

Darrell Bartholomew
(507) 537-7440

Bioproducts

Edward Wene
1-800-279-5010

Waste utilization

Jack Johnson
(507) 835-8990

Aquaculture

Todd Sisson
1-800-279-5010

AURI Labs and Pilot Plants

AURI operates several laboratories and pilot plants that support research and development of innovative uses for Minnesota's agricultural commodities. Combined with the research expertise of AURI staff, these facilities provide a unique and valuable service to companies involved in new product development.

AURI's pilot plant and laboratory in Crookston allow entrepreneurs to test food and ag-based industrial products with commercial processing equipment. Product samples for test marketing can also be provided.

The 4,000-square-foot pilot plant is equipped for extrusion processes, freezing, modified atmospheric packaging, and a variety of dry material processing and fermentation. Equipment includes an automatic package-filling line, a dehydrator, a vegetable processing line to clean, grade, blanch and quick-freeze, a pilot bakery, and a gradient force mill for fractionating grain. Steam, compressed air and 480-volt electrical service are available.

Crookston's up-to-date laboratory provides quality assurance and analytical services. For more information contact Todd Sisson, 1-800-279-5010.

The waste utilization pilot plant in Waseca focuses on profitable uses for plant and animal waste products. Equipment includes extruders, pelletizers, grinders, mixers and

dryers. Activities range from pelletizing dried manure for lawn fertilizer to processing ag byproducts into feed. For more information contact Jack Johnson, (507) 835-8990.

AURI's oils lab in Marshall tests and develops marketable products that use oils and fats. Focus areas include alternative fuels and lubricants based on soybean oil and animal fats, industrial oilseed products such as surfactants, and dairy fats. For more information contact Max Norris, (507) 537-7440.

The Marshall facility also includes a meat laboratory for animal product development as well as food processor training. This USDA-inspected facility is equipped to aid in product development from raw material to finished meat products. For more information contact Darrell Bartholomew, (507) 537-7440.

AURI Field Offices

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1-800-279-5010

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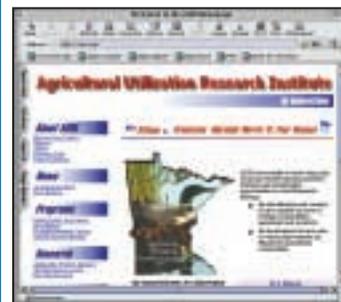
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Nancy Larson
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Southeast Office

Lisa Gjersvik or Mardell Jacobson
P.O. Box 251
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VISIT AURI ON THE WEB AT
www.auri.org

NuSun™
rising

**AURI supports a study
that could energize
the sunflower industry**

By Dan Lemke

Bismarck, N.D. — High on NuSun sunflower oil, Midwest sunflower growers are hoping for something low — like cholesterol.

NuSun oil has a heart-healthy fatty acid profile, high in monounsaturates. Animal feeding trials have yielded positive results; now the National Sunflower Association is turning their attention to a human diet study.

NuSun supporters believe their oil compares favorably with olive oil. However, they lack the nutritional research to support their claim. That may change, pending the results of the human study expected to start this month at Penn State University. The study will examine NuSun sunflower oil's effect on blood cholesterol levels.

"The benefits to NuSun are that it's a healthy oil and does not require hydrogenation" for product stability during storage and distribution, says Ruth Isaak, NSA communications director. "The monounsaturates mean the oil is stable, it has great taste, and because of no hydrogenation, no trans fats are created."

Profile permutation

Five years ago, the National Sunflower Association recognized a need to tweak the fatty acid profile of sunflower oil in order to compete with soy and corn oil in domestic food markets. Through traditional plant breeding, a mid-oleic or monounsaturated sunflower oil was developed. Later called NuSun, the oil combines excellent taste with health benefits. Proponents say it works well in commercial applications such as frying. It's already the oil used to make Pringles potato chips.

The National Sunflower Association says about 35 percent of last year's oilseed sunflower acres were NuSun varieties. With positive results from

the human diet study, producers could have reason to grow even more.

"We can build a market for sunflower oil," Isaak says. "There's a 50 to 70 cent per hundred weight premium for NuSun growers. The goal is to build new markets and increase return to sunflower growers."

Big boost?

The NSA has already received support for the study from AURI, as well as commitments from groups in the sunflower-growing states of North Dakota and Kansas. The project is garnering widespread support because NuSun could boost the whole sunflower industry.

"When we look at it, there aren't a lot of alternatives for producers in this region of the country," says AURI fats and oils scientist Max Norris. "With factors like a short growing season, we don't have unlimited opportunities. So when we do have another way for producers to turn, we have to investigate it."

"Human nutritional research will help us continue to market this oil," Isaak adds. "Positive results will help us sell the health benefits of NuSun to the nutrition and medical communities as well as consumers."

For more information on NuSun, visit the NSA Web site at www.sunflowernsa.com.

