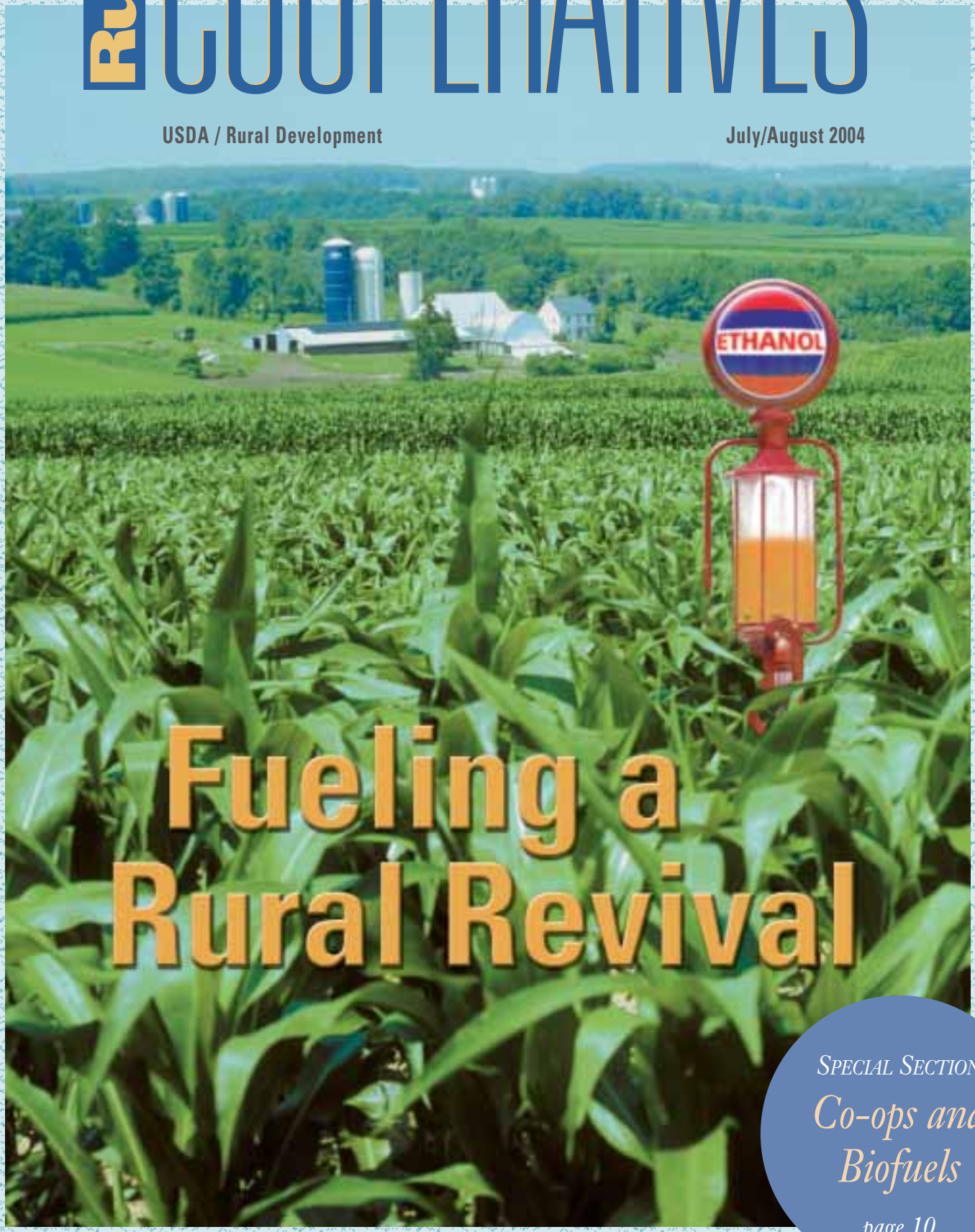
Rural COOPERATIVES

USDA / Rural Development

July/August 2004



Fueling a Rural Revival

Special Section

Co-ops and Biofuels

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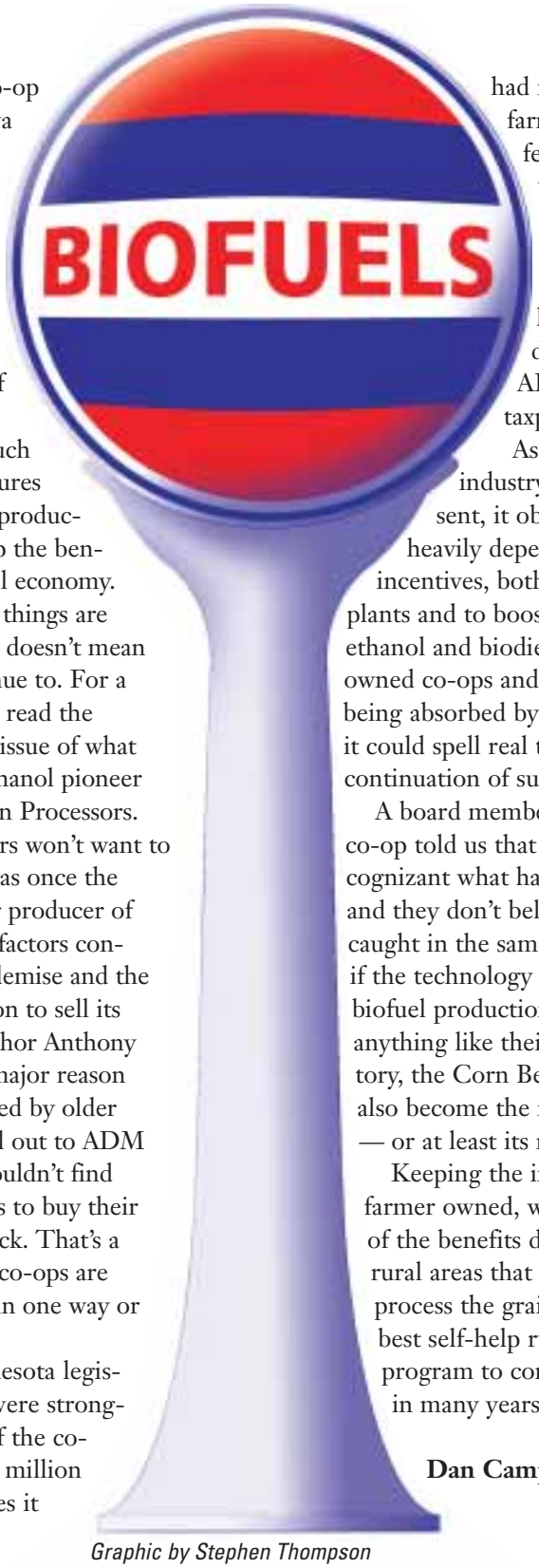
Put a soybean in your tank

It may not have quite the ring of the "Put a Tiger in Your Tank" advertising campaign from the 1960s, but for those of us paying well above $2 a gallon for gasoline this summer, the idea of putting corn kernels or soybeans in our fuel tanks may have some new-found appeal. As of this writing in early July, gas prices have subsided a bit, but with domestic and worldwide petroleum reserves ever dwindling, it seems we are climbing an increasingly steep petrol-price stairway — one with no end.

While farmers are hit even harder than most Americans by higher fuel bills, at least some of them are smiling: those corn/soybean farmers who have built ethanol and soydiesel processing plants. They are currently earning good returns by transforming their crops into a value-added product that is simultaneously beginning to help ease our nation's dependence on foreign oil.

We've devoted a large portion of this issue to relating the experiences of several of these new processing co-ops. Articles have also been contributed by some farm supply co-ops which are promoting the sale of ethanol or soy-diesel. Farmer and utility cooperatives are also delving into production and use of other renewable fuels and energy sources, such as methane recovery, thermal depolymerization, wind and solar power and other technologies.

In addition to farmers earning money from biofuels, the increased demand they create for corn and soybeans has helped to raise grain prices for all farmers in their operating regions. Better still, some towns, such as Benson, Minn., credit an overall revival in their economies to the opening of ethanol processing plants in their vicinity. The co-op there, Chippewa Valley Ethanol, has also been a leader in promoting a marketing venture that is selling ethanol for a number of co-ops. Some observers say such marketing ventures are needed for producers to truly reap the benefits of a biofuel economy.



Graphic by Stephen Thompson

Just because things are going well now doesn't mean they will continue to. For a cautionary tale, read the account in this issue of what happened to ethanol pioneer Minnesota Corn Processors. It's a story others won't want to repeat. MCP was once the nation's leading producer of ethanol. Many factors contributed to its demise and the eventual decision to sell its operations. Author Anthony Crooks says a major reason was a desire/need by older members to sell out to ADM because they couldn't find other producers to buy their co-op/LLC stock. That's a problem many co-ops are wrestling with in one way or another.

Some Minnesota legislators — who were strongly supportive of the co-op and the $33 million in state subsidies it had received while farmer owned — feel the taxpayers were cheated when the operation was sold. One legislator has even demanded that ADM return those taxpayer dollars.

As well as the industry is doing at present, it obviously is still heavily dependent on such incentives, both to help build plants and to boost prices for ethanol and biodiesel. If producer-owned co-ops and LLCs wind up being absorbed by industry giants, it could spell real trouble for the continuation of such incentives.

A board member of one ethanol co-op told us that farmers are very cognizant what happened to MCP and they don't believe they will get caught in the same trap. If so, and if the technology and economics of biofuel production continue on anything like their current trajectory, the Corn Belt may someday also become the nation's Fuel Belt — or at least its reserve tank.

Keeping the industry largely farmer owned, with the majority of the benefits distributed in rural areas that produce and process the grain, may be the best self-help rural development program to come down the pike in many years.

Dan Campbell, *Editor*

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DEPARTMENTS

On the Cover:

Ethanol fuel pumps aren't really popping up in Midwest cornfields, but it almost seems like it. Seventy-five ethanol plants are now in operation, and as many as 100 more biofuel plants are at some stage of planning or construction. Why the vintage fuel pump? "It symbolizes the combination of old-fashioned work values of rural America with the advancing technology of biofuels," says assistant editor/graphic artist Stephen Thompson. And those old pumps had class! A special biofuels section begins on page 10.

Co-ops can play role for members seeking trade adjustment assistance

Alan Borst, Ag Economist
USDA Rural Development
e-mail: alan.borst@usda.gov

One service that many cooperatives have long provided to eligible members is the application and delivery of government benefits. For example, cooperatives have been obtaining marketing assistance loans and loan deficiency payments on behalf of members for decades through the Cooperative Marketing Agency program of the U.S. Department of Agriculture's (USDA) Farm Service Agency.

Members benefit from saving time and effort in not having to apply for benefits they receive, while the cooperative can more efficiently process and submit the applications with much of the necessary information having already been gathered for other purposes. Another potential opportunity of this kind has opened up for some cooperatives with members who have been economically hurt by import competition.

Facing increasing pressure from imports, Maine wild blueberry growers petitioned for assistance under USDA's Trade Adjustments Assistance program, and ultimately collected 2.8 cents per pound for the period 1997-2001. Photos courtesy Wild Blueberry Growers Association of North America

The Trade Act of 2002 established a new program, Trade Adjustment Assistance (TAA) for Farmers, for fiscal years 2003-2007. This program is administered by USDA's Foreign Agricultural Service (FAS). TAA provides technical assistance and cash benefits to eligible producers of raw products that have suffered reduced prices due to imports.

TAA has two main requirements that applicants must meet in order to be eligible. First, the most recent marketing year's price must be less than 80 percent of the average of the five preceding marketing years. Second, this price decline must be shown to be due to an increase in imports.

Be aware that once a petition is approved, all producers in the region for which the petition was filed are eligible for TAA if they meet certain eligibility requirements. If a producer did not produce, could not demonstrate a decline in net farm or fishing income, has received TAA payments equal to $10,000, or has received counter-cyclical payments equal to $65,000, they would be ineligible for TAA payments.

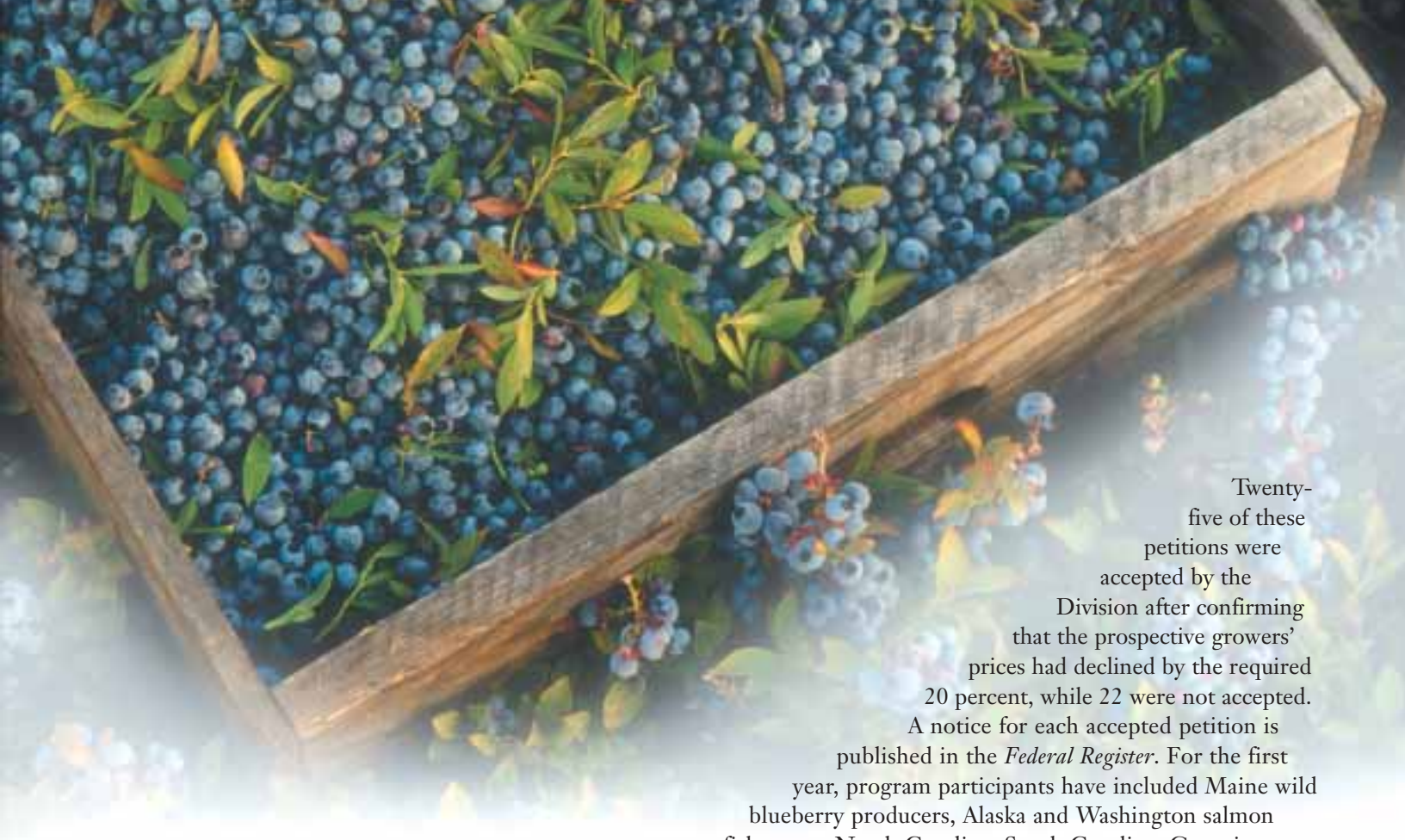
Co-ops qualified to apply

Growers must file a petition in groups of three or more, or through an authorized representative. A marketing cooperative would qualify as such a representative. Prospective grower groups or their representatives may submit TAA petitions between Aug. 15, 2004, and Jan. 31, 2005. Only one petition may be submitted per marketing year. The TAA petition form may be found on the Internet at: www.fas.usda.gov/itp/taa/fas0930.pdf.

The petition form is only two pages long and requires only basic information and price data. Any group of growers is likely to be able to fill it out with little difficulty. In addition, FAS has personnel who will help growers or their representatives prepare their petitions. However, most petitioners to date have been commodity associations.

There are a several important decisions that any growers or their representatives must make in preparing a petition:

- The petitioner must be as specific as possible in identifying the like or directly competitive imported product that is being claimed as contributing importantly to the commodity's price decline. The inclusion or exclusion of a particular class of product may make the difference between the certification or denial of a petition.
- The petitioner must carefully consider whether the certification is to cover a commodity produced nationally or in a state. Again, this may influence the chances that



a petition will be certified and the size of the potential payment rate for certified farmers. Price may have declined by the required 20 percent in one state, but not nationally, or vice versa. The greater the documented decline in grower price in the petitioned year from the average of the previous five marketing years, the higher the potential cash benefit for the certified farmers. FAS will ultimately select the best available price series, which may be different from the one submitted, but selecting the impacted area, whether it is a state or the nation as a whole, with the greatest price decline is in the interest of the petitioner.

- The petitioner needs to be careful in specifying the marketing year for the product. The marketing year will influence the boundaries of the price series, and thus the chances of the petition's success. The period identified in the petition as the marketing year must be commercially justifiable, especially if it is different from that identified by the USDA's Agricultural Marketing Service (AMS). FAS may insist on using the AMS marketing year if it is the logical choice. A marketing year may be a varying length depending upon the commodity.

25 assistance requests approved by FAS in '03

FAS' Import Policies and Programs Division receives and processes the TAA petitions, reviews for basic eligibility, and provides guidance to the petitioner, ensuring that the petition meets the minimum tests. In 2003, the first year of the program, 47 petitioners submitted petitions to the Division. Twenty-five of these petitions were accepted by the Division after confirming that the prospective growers' prices had declined by the required 20 percent, while 22 were not accepted. A notice for each accepted petition is published in the *Federal Register*. For the first year, program participants have included Maine wild blueberry producers, Alaska and Washington salmon fishermen, North Carolina, South Carolina, Georgia, Alabama, Texas and Arizona shrimp farmers and shrimp fishermen, Florida lychee growers and catfish farmers in 18 states.

Last October, a trade association with substantial cooperative membership submitted a petition for adjustment assistance with the intention of coordinating the producer petition of its members. However, the petition was not accepted because it failed to meet the basic eligibility criteria.

Once the petition has been found to be in order, the next step is for the USDA's Economic Research Service (ERS) to study the case. ERS verifies the price information and analyzes all economic and market factors that may have contributed to the price decline. ERS then presents FAS with its findings, which are then reviewed by an interagency committee of senior economists.

This committee then recommends to the FAS administrator that the petition be certified or denied. A notice of certification or denial for each petition is published in the *Federal Register*. The period of time between acceptance of a petition and its certification or denial can be no more than 40 days.

Petitioners have responded to import competition in two ways that have caused rejection of their petition. In some cases, growers recognize that a surge of imports has occurred and reduce their production accordingly, thus better balancing supply and demand and preventing a price plunge. This has the effect of preventing the required 20-percent price decline.

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Amazing Grains!

Montana grain growers use VAPG funds from USDA to develop gluten-free flour

By William W. Barr
Cooperative Development Specialist
USDA-Rural Development, Montana

Look before you leap. But not too long, because he who hesitates is lost.

Those two somewhat contradictory adages have special meaning to anyone who has ever launched a new business venture. Make sure you test the waters before you jump in, we are advised on one hand. But wait too long for an opportunity in a business market as dynamic as in the United Sates, and you may see opportunity snatched away by someone who was more aggressive and/or better capitalized. The trick, of course, is to find the right balance of caution and courage.

The development of Amazing Grains Grower Cooperative represents such an effort. Its producer members began the journey as a search for a market for processed, millable seed — a market that would provide the most value-added options for the lowest producer investment. Helping them along on this journey was a Value-Added Producer Grant from USDA Rural Development, which provided working capital for a number of the co-op's efforts.

Amazing Grains is a grower-owned cooperative that produces, processes, packages, markets and distributes a gluten-free flour made from Indian rice grass. The cooperative also supplies state-certified native grass seed for private and federal land reclamation projects. In addition to the USDA funding, a wide range of public and private partners contributed technical and financial assistance to guide this group of growers.

Dietary staple for Native Americans

Indian rice grass is a native grass that served as a dietary staple of Native Americans for many centuries before the introduction of maize. The grass was produced in limited quantity in Montana for land reclamation projects, but volatile price swings and an unreliable market kept the producer base small.

> *The trick, of course, is to find the right balance of caution and courage.*

In the 1980s, Dr. David Sands, a research scientist and professor in the Montana State University Department of Agriculture in Bozeman, determined that Indian rice grass had value-added potential for producers. The flour of the rice grass is gluten free and — when used to make a variety of bakery products — it has fine flavor and is high in fiber and protein.

Alternative gluten-free flours — such as those made from rice, bean, potato and corn — do not exhibit these combined characteristics. Improved nutrition and better tasting, gluten-free products are marketed under the co-op's trade name: Montina™. These products are of interest to those who suffer from gluten intolerance, or Celiac disease.

Celiac disease is a genetic autoimmune disorder which can result in overwhelming fatigue, diarrhea, vomiting, malnutrition and eventual death. While there is no cure, removal of foods from the diet that contain gluten can successfully control the effects.

The challenge for producers of Indian rice grass was to develop a solid, reliable commodity-producer base to process high-quality seed into a nutritious, good tasting, quality product which is reliably gluten free. The assured gluten-free reliability is critical to those inflicted with Celiac, for the market is very "purity conscious." The co-op is concentrating

on the European and North American markets.

Indian rice grass is a "bunch grass," used for wild-land range forage. It grows throughout the intermountain West, is drought resistant and survives well in cold weather. For Indian rice grass to succeed as a reclamation seed and as a base for gluten-free flour, it has to be price stable. It must be available in sufficient quantities to withstand competition from alternative species and cannot be priced prohibitively high. Processing must produce a reliable, consistent gluten-free product.

Crop scarce at first

At the start of this project, there was a scarcity of cultivated Indian rice grass and producers willing, and able, to produce it. Project development was initiated under the guidance of the Montana State University (MSU) research team, aided by a small Indian rice grass producer team in the Malta area of Montana.

In 1997, the Montana Department of Agriculture provided a $10,000 Growth Through Agriculture Grant to the MSU research team and the project leaders to investigate developing Indian rice grass into a value-added food product the emerging cooperative could produce and market.

In 1998, USDA's Agricultural Marketing Service, Federal State Market Improvement Program (FSMIP), awarded a grant of $95,000 to MSU to determine market potential of Indian rice grass as a gluten-free, perennial grain crop. Study results suggested that market potential was positive, especially domestically. Product development research was conducted at Southern Labs Inc., resulting in a nutritional profile.

MSU's Central Agricultural Research Station conducted an economic analysis of cultivation, flour production and weed management studies. In addition, studies were conducted addressing market penetration and entry and development of a seed crop, seed cleaning techniques and requirements for a processing facility.

Dr. Duane Johnson, the Research Leader at the MSU Agriculture Research Center at Creston, demonstrated — through research and test plots production — that Indian rice grass could be grown as a cultivated crop. He and Dr. Sands developed guidelines for site preparation, planting, weed control and harvesting. A mill for processing the seed was located and made available.

Opportunity vs. risk

During this period, there was widescale regional drought in the Malta area. Indian rice grass production does not reach full potential until two to three years after planting, and cautious producers were hesitant about starting to grow a new crop, especially under these conditions.

While some growers saw the opportunity for added income, they also saw substantial risk. During times of drought and poor crop prices, convincing producers to take additional investment risk is difficult.

Interested producers were unfamiliar with how to start a new value-added cooperative, how to manage the business to produce the value-added product and how to effectively market it.

Underestimating the amount of organizational work required for the cooperative project led to commodity production delays, as well as delays in the establishment of cleaning and milling facilities. The bridge between research and practical commercialized business operations appeared to be a long one.

In spite of the initially discouraging start, there was a high level of interest among producers with strong desire to develop the project into a commercial, cooperative business. Some timely developments designed to reduce the risks occurred in 1999 when the state legislature made changes to the Montana Code covering legal incorporation of cooperatives. These changes clarified legal and regulatory cooperative development issues.

Another key development came with a grant for a Lake County Community Development Corporation project in Ronan, Mont. Called Mission Mountain Market, a state Department of Agriculture grant provided in 1999 assisted in the establishment of a commercial kitchen facility and business incubator. Other funding agencies also contributed grants for the Lake County project.

Lake County received USDA Rural Development funding for a cooperative development specialist. Working for Mission Mountain Market, Jan Tusick has become a key partner with the statewide center. The potential producers of Indian rice grass now had a technically proficient cooperative development specialist able to work with them in their primary planned area of production.

Cooperative development legal counsel was provided by Steve Noack of the Gunhus Law Firm in North Dakota. He was contracted to assist with bylaw development and capitalization plans.

The cooperative was legally incorporated in 2000 and its first organizational meeting was held in January 2001.

"Producer champion" sought

Mission Mountain felt that a "producer champion" with credibility among growers needed to be found to assist Amazing Grains Grower Cooperative — someone with business experience other than just commodity production.

John Sheldon, who lived, farmed and owned Crestin Seeds in Kalispell, Mont., had over 20 years' experience producing Indian rice grass seed for mine site reclamation projects and in applying direct seeding systems. The co-op was progressing towards its goal of stepping forward from commodity production to value-added processing and marketing. Using a 1999 USDA Risk Management Grant, a series of membership and production education drives were held. In 2001, the co-op held its first stock offering.

In 2001, the Montana Board of Research and Commercialization Technology awarded a $205,000 grant to Montana State University, with Dr. Sands as principal investigator, to facilitate transfer of Indian rice grass technology to the co-op and to support development of their Montina™ products. While producers continued to be highly interested in the project, when it came to investing in a new business, they were still reluctant to "put in more than a toe." A number of them adopted a position of phasing their delivery right payments over a period of time, or purchasing fewer delivery rights than they could have in order to see "how the business was developing."

The business needed more working capital in 2002 than it was generating to enter markets in a timely manner. Controlled growth is important, but being overly cautious can result in under-capitalization and the loss of opportunity. That's when it applied for a working capital Value-Added Producer Grant (VAPG) from USDA Rural Development to expand processing capacity. Grant funds were used for business operations, inventory development and market development.

A feasibility study and business plan were reviewed and approved by the Montana USDA Rural Development state office in March 2003. The grant was designed to provide assistance for the cooperative as it progressed toward becoming a commercially viable entity.

The VAPG helped Amazing Grains Grower Cooperative hire key staff; to provide cash for inventory and other start-up costs; to provide financial resources for market identification, development and expansion; and to accelerate business growth and commitment by the producers to their value-added venture.

Expert management hired

Producers realized they did not have all the necessary business management skills themselves, so they hired those skills via the management team. Two key management staff were retained by the co-op's board: General Manager Bob Warren and Doug Martin, who provides financial management expertise. For 12 years, Warren had been owner and operator of Cream of the West, a Montana multi-grain, hot cereal processing company. Martin had financial experience and planning responsibilities with a background in operations.

These delicious baked goods, made with Montina flour, can be eaten by people who are unable to digest gluten. A grower's hands (page 6) brim with freshly harvested Indian rice grass seed, which the Amazing Grains growers' co-op is processing into a line of gluten-free flour products. Photos courtesy Amazing Grains

"Each does what he does well," says Warren. "The board doesn't negotiate broker-distributor contracts, and I don't tell them the proper ground temperature for seed germination."

Warren knows that the market will not commit to large, new product purchases until customer reaction to the product is known. The market must also feel certain that a consistent, high-quality and predictable volume of product is available. On the other hand, the board and co-op members want to be sure there is a guaranteed market for their value-added product before they invest in increased production.

Mission Mountain Market — the in-house incubator that has enabled the cooperative to maintain low overhead and start-up costs — is not a full-scale, commercial production facility. But it enabled the Amazing Grains to: get started, to enjoy a co-pack arrangement, to get sales under its belt, to get a marketing program in place, to generate cash flow and to use offices and amenities without creating big overhead expenses. While Mission Mountain can support the business-production needs of Amazing Grains to a point, at some juncture the co-op will need to develop its own facility.

The co-op employs three staff at this point, but when it moves into its own facility, four more jobs will be created. Four jobs at Mission Mountain will then be available to assist another venture.

Timing significant moves

When is the best time for that transition? What is the right timing for marketing efforts? How big should the business try to become? What level of dependency is Amazing Grains willing to accept? What level of sales will enable the co-op to move into its own facilities, use its own equipment and labor?

In the first 18 months, Amazing Grains has about reached break-even, with $222,000 in gross sales as of March 2004. For 2004, thanks to assistance from the VAPG, the co-op expects gross sales of $500,000. By the end the year, it plans to be marketed in 30 states and two countries.

Tim Anderson, Amazing Grains' board president, says that being committed to a value-added business does not lessen the production of risks associated with growing a new crop. The producers were very cautious about purchasing delivery rights and paying for them in a timely manner. This caused an adverse cash-flow problem.

The VAPG assistance from USDA softened the investment risk by providing leveraged cash to allow the purchase of seed inventory to accelerate the

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Ocean Spray rejects Pepsi offer

Ocean Spray members in June voted down an offer to form a venture with PepsiCo, under which Pepsi would have bought the co-op's beverage business. PepsiCo had offered the co-op $100 million and said it would assume some of the co-op's debt in exchange for the nation's leading cranberry juice brand. Instead, the 925 members opted to continue the 75-year tradition of operating the company as an independent, farmer-owned cooperative.

The vote was 52 to 48 percent against pursuing the Pepsi venture, under which the co-op would have continued to run the agricultural business, but the value-added beverage operation would have gone to Pepsi. In essence, the co-op would have reverted to being a raw-product supplier to Pepsi.

Ocean Spray is the top-selling brand in the non-refrigerated juice aisle of the nation's supermarkets, with sales of about $540 million last year. But cranberry prices have been depressed in recent years, due primarily to crop surpluses. However, the market has been coming into better balance, and fruit prices have again been on the rise. In 2002, co-op members averaged $35 a barrel.

Growing cranberries and producing quality beverages and sauces is not the issue for Ocean Spray. The main problem is product distribution in an industry that has become concentrated in the hands of a few giants. Proponents of the deal said that because PepsiCo and Coca-Cola Co. control 75 percent of the nation's distribution of noncarbonated drinks, it is too difficult for a small (by comparison) company to gain entry to crucial marketing outlets, such as the single-serve beverage business in convenience stores.

Opponents contended that the deal would have clamped a too-low price lid on future grower earnings at a time when fruit prices are rising. Further, they say other marketing deals are possible that would not force the co-op to give up its value-added arm. Some have even suggested that Ocean Spray explore a joint marketing venture with other co-op juice producers, such as Tree Top, Welch's and Florida's Natural.

The verdict on the Pepsi deal means the co-op's board will cease all talks with PepsiCo and other potential equity investors, focusing all efforts instead on working with management to build the Ocean Spray business for the future. The decision by Ocean Spray grower-owners in Massachusetts, Wisconsin, New Jersey, Florida, Oregon, Washington, British Columbia and other parts of Canada will bring to an end a lengthy process undertaken by the board more than a year ago. ■

Fueling a rural revival

Ethanol co-op supports farmer income while providing lift to rural community

By Dan Campbell, Editor
e-mail: dan.campbell@usda.gov

It started as the dream of farmers and the managers of the local electric cooperative who were searching for a way to add value to corn and to help stabilize electric rates. The Chippewa Valley Ethanol plant outside Benson, Minn., has not only accomplished that, it has also been a sparkplug that ignited efforts to reverse the rural decline Benson seemed locked into for a time.

"If you go back 15 years or so ago, Benson was facing a malaise like that of so many other rural towns with slowly declining populations, loss of jobs and an eroding tax base," says ethanol plant manager Bill Lee. Lee first came to the town of 3,400 people about 130 miles west of Minneapolis in 1994. At that time, he was an engineer for the firm that built and originally operated the ethanol plant (Delta T Corp.) He switched over and went to work for Chippewa Valley in 1996 when the co-op bought out Delta T's minority ownership position.

"The people of Benson are survivors and have a very progressive business philosophy," Lee continues. "They were willing to vote with their pocketbooks — to invest their money in the future of the community."

In the years after the ethanol plant began operation in 1995, Benson took a number of steps to strengthen its economy. Citizens and the business community launched a concerted effort to keep a farm-manufacturing plant in town when it appeared likely to move. They not only succeeded in keeping it in Benson, but it has since been expanded, now employing 235 people.

Townspeople also joined forces to raise the $2.5 million needed for remodeling to keep the local hospital operating at a time when it appeared headed for failure. Today, it is not only thriving, but was recently rated as one of the nation's most efficient rural hospitals. Benson also will soon be home to a new biomass powerplant — FibroMinn — that will burn turkey liter to generate 55 megawatts of electricity.

The success of Chippewa Valley and the town of Benson go hand in hand and is indicative of "the power of people working together in co-ops" to boost farm income and bolster their communities, says Jan Lundebrek, board vice chair of Chippewa Valley Ethanol and president of First Security Bank in Benson. "Rather than blaming other people or forces for the problems facing us, we just decided that we ourselves had to step up to the plate and do what was necessary to turn things around." She also credits several USDA Rural Development loan programs (such as the Community Facilities loan program, which provided a $1.5 million loan for the hospital) for helping in Benson's revival.

"Confidence breeds confidence," adds Lee, noting that another indicator of improving economic health here is the increase in the number of new homes constructed in recent years.

More than good neighbors, Chippewa Valley Ethanol and Benson, Minn., depend on each other for continued success. Clockwise from upper left: the grain delivery area at Chippewa Valley; an old municipal swimming pool has been completely renovated and expanded; new housing developments are another sign of a strong local economy; the CNH-

Study sees widespread rural benefits from renewable fuels

The Renewable Fuels Association (RFA) commissioned a study in 2002, "Ethanol and the Local Community," that shows dramatic impacts on a local economy from ethanol plants. The study was based on a hypothetical, 40-million-gallon-per-year ethanol plant and national averages. Such a plant is likely to:

- Provide a one-time boost of $142 million to the local economy during construction;
- Expand the local economic base of the community by $110.2 million each year through the direct spending of $56 million;
- Create 41 full-time jobs at the plant and 694 jobs throughout the entire economy;
- Increase the local price of corn by an average of 5-10 cents per bushel, adding significantly to farm income in the general area surrounding the plant;
- Increase household income for the community by $19.6 million annually;
- Boost state and local sales tax receipts by an average of $1.2 million (this varies depending on local tax rates);
- Provide an average of 13.3 percent annual return on investment over 10 years to a farmer who invests $20,000 in an ethanol production facility.

Benson has been fairly reflective of these averages.

"It's no wonder many communities view value-added opportunities like ethanol production as the best way to revive stagnant rural economies," says Bob Dinneen, former RFA president. "The economic activity generated by an ethanol plant ripples throughout the region as new wage-earners spend their money at local businesses."

Plant accident only temporary setback

Chippewa Valley Ethanol was successful virtually coming out of the chute, operating at 100 percent of capacity within 30 days of start-up and averaging 98 percent of design capacity during the first six months of operation.

But there have been struggles and setbacks. "It certainly hasn't been a cake walk — there have been challenges all along the way," says Lundebrek, who was recently honored as Minnesota's Woman Banker of the Year and who, along with her husband, has a 360-acre farm.

The biggest of these challenges occurred last October, when there was an explosion, apparently sparked by welding work being done on the plant's saccharification tank. One employee was killed and two others were injured. Major damage was sustained by the plant building and a fuel tanker truck. Through sheer determination and hard work while coping with the tragedy, workers had the plant back in partial operation in just three weeks.

The plant was originally built to produce 15 million gallons of ethanol per year, and subsequent modification boosted capacity to 20 million gallons annually. But most new plants today are being built to produce around 40 million gallons, and the co-op knew it would need to expand capacity again to remain competitive. So, in June 2003, a major expansion was completed that

Benson manufacturing plant has expanded to 235 employees, who build cotton harvesters and crop-protectant applicators; slipping and sliding at the new pool; The Swift County Benson Hospital, once in danger of closing, is now rated as one the nation's best run rural hospitals; lab operator Kevin Wilts tests ethanol and grain samples at Chippewa Valley; the co-op's sign outside the plant has been joined by one for its Glacial Grain Spirits subsidiary. Photos by David Lundquist

boosted production capacity to 45 million gallons.

Lee says that is about the optimal size for ethanol plants. After that, they have to start going so far afield to procure corn that the extra transportation costs offset any gains from economy of scale in the processing operation.

As part of the expansion project, the co-op spent several million dollars extra to install special thermal oxidizers, which put plant residues through an extra firing to reduce emissions into the air. "The plant is within a mile of town, but now you would never know it's there," Lundebrek says.

Total investment in the plant to date is about $55 million, and annual sales are running at about $62 million. Membership is about 950. Membership includes producers, co-op elevators and other local investors.

Lundebrek says non-producer investors are virtually all local people (ranging from dentists to merchants) who wanted to invest in the co-op "to show their support for agriculture,"

The co-op is distilling Shakers Original American Vodka through a subsidiary. Photo courtesy Shakers Vodka

which she says is still the lynchpin to the region's economy. "If agriculture isn't successful here, they know they won't be either."

USDA loan program helps young producers

The original plant construction in 1994 cost $28 million, for which the co-op needed to raise $10 million. The initial equity drive required members to purchase at least 5,000 shares, which represented an investment of $10,000. But many growers at that time were cash strapped. "It was difficult to get some people to commit, because we had been through a series of bad (corn) price years and they were hurting," Lundebrek recalls.

USDA Rural Development's then-new Cooperative Stock Purchase Program played a key role in helping young producers without strong collateral to buy shares in the co-op. Under

Ethanol co-ops unite to form marketing venture

While the majority of ethanol production in the United States is being produced by cooperatives, most of the fuel is being marketed through non-cooperative businesses. Thus, there has been a gradually increasing level of discussion about the need for regional, or even a national co-op marketing organization to help producers capture more of the profits from the ethanol market.

Chippewa Valley Ethanol is doing more than talking about it. It is a founding member of Renewable Market Products Group (RMPG), a cooperative-LLC formed in the late 1990s by five producer-owned ethanol plants. RMPG recently expanded to eight members. By the end of this year, plant manager Bill Lee expects the membership to have grown to a dozen ethanol co-ops.

These plants are located in Minnesota, Iowa, South Dakota, Nebraska and Missouri. After the expected expansion, the marketing co-op will be handling about 500 million gallons of ethanol annually, which Lee says would rank RMPG as the fourth largest marketer of ethanol in the nation.

The regional spread of members offers big benefits in reducing freight costs, because fuel can be shipped from plants located closest to a customer and/or take better advantage of transportation infrastructure in their area (i.e., proximity to the most cost-effective rail lines, trucking routes, etc.).

"The impetus behind RMPG was producers' desire to own and control the marketing function of their ethanol — and to share in the proceeds derived from this part of the business," says Lee, who was elected this year as chairman of the national Renewable Fuels Association. Not only does the co-op pool revenue and expenses, but members also share data that have helped them establish production benchmarks and improve their products and processing efficiency.

Through RMPG, members also enjoy combined buying power, which Lee says has proven very beneficial for procuring supplies such as the enzymes needed to produce ethanol.

"We're not out to be the biggest fuel marketer, but a lot of producers find it attractive that we are a farmer owned and controlled business. They feel that through RMPG, they can better control their destiny."

this program, USDA will guarantee a maximum of 80 percent for up to seven years for loans of up to $400,000 to producers buying stock in a value-added agriculture co-op.

"Our bank issued loans to a number of those producers, many of whom might not otherwise have been able to join," she says. It turned out to be a good business for the producers, the co-op, the bank and USDA . "None of those loans ever went delinquent," Lundebrek says proudly. (Call 202-720-8381 and request PA 1640 for a free brochure on this program.)

That helped the co-op raise all but $1.5 million of what was needed. The gap as filled through a consortium of 10 banks which agreed to issue a letter of credit for that amount. Growers paid it off through an assessment of an additional 10 cents per bushel of corn.

In this way, the letter of credit was redeemed in just eight months. The co-op also received a $500,000, interest-free loan from the Rural Utilities Program of USDA Rural Development to use as collateral when financing the plant.

When the plant was expanded, the co-op made an additional stock offering to members for $2 per share, or $2.50 per share for non-members. "We could have sold stock to new members for a higher amount than that, but the co-op wanted to keep the price low to help young farmers invest," says Lundebrek.

"Bio-refinery" outlook needed for long term

Jill Nichols Euken, a biofuels expert with the Iowa State University Extension office, says she sees great potential for continued expansion of the ethanol and biodiesel industries "if the owners see their plants as the first step in building a bio-refinery.

"Ethanol, biodiesel and the co-products they produce — dried distillers grains (DDGs) and glycerin — will fast become commodities. The goal needs to be building true bio-refineries where the renewable feedstock is fractionated into various components. Each component should then be used for its highest value: intermediate chemicals, fibers, nutrients, fuels, etc.)." Euken notes that this is the way in which petroleum refineries have maximized their profits.

> *"The people of Benson are survivors... they were willing to vote with their pocketbooks — to invest their money in the future of their community."*
>
> *— Bill Lee*

"The greatest pitfall facing the industry is farmers stopping with the production of (just) ethanol," she stresses. "The best ethanol and biodiesel operations are those that are continuing to look for ways to improve their processing and expand their product line."

For drymill ethanol plants, the most important of their byproducts is dried distillers grains (DDGs). Chippewa Valley is selling its DDGs to a broker that works for several co-ops, with the primary market at present being the turkey industry. About 50 percent of the plant's production is being sold within 30 miles of Benson.

Another unique venture the co-op is involved in is production of premium vodka — called Shakers Original American Vodka. It is being marketed through Infinite Spirits of Nappa Valley, Calif. (see March-April 2002 issue of *Rural Cooperatives*, page 20). The vodka is distilled from Minnesota wheat, purchased from co-op members and others. While corn can be used to make vodka, Lee explains that wheat produces a smoother, slightly sweeter taste needed for premium vodka.

In developing the recipe and distilling process for the Shakers Vodka, co-op members and Infinite Spirits staff took several trips to Poland to study the vodka processing methods used by Old World masters of the art.

While Infinite Spirits owns the Shakers brand, Chippewa Valley is 100 percent owner of Glacial Grain Spirits, which holds the contract to manufacture the vodka.

Smaller board should prove more effective

To improve the efficiency of its board, Chippewa Valley members recently voted to reduce the size of their board from 18 to 9 members, and reduce the number of directorial districts from six to three.

Lee says the co-op board engaged in much discussion following on the heels of a USDA study (by the Cooperative Services office of USDA Rural Development) that showed seven to nine to be the average number of directors for co-ops nationally. "That sort of made clear what we had already been thinking: that 18 is an awful lot of directors for trying to reach a consensus. After lengthy deliberation, we put it to the members, and a large majority approved the reduction."

The co-op has compiled a manual that helps directors, committee members and employees understand just how the co-op works. "It spells out things such as what is expected of a

committee member or director," Lee notes.

The co-op has also made good use of the director-training program offered through the Quentin Burdick Co-op Center at North Dakota State University. "It's absolutely excellent — I recommend it highly," says Lundebrek.

Based on her experiences so far as a co-op director, she says the best advice she can offer to other directors is this: "When you are elected to the board, your overall objective is to do what is necessary to keep the co-op operating soundly and efficiently. You must listen to the members, but the efficient operation of the co-op is always the top concern. That may not always be the most popular thing to do."

Supply and demand remain in balance

While there has been some fear that the rapid rate of increase in the number of production plants would glut the ethanol market, so far demand has been increasing right along with the supply, Lee says.

RFA has even estimated that the already sky-high gasoline prices this summer would likely be from 14 to 15 cents per gallon higher were it not for the nation's ethanol and biodiesel supply.

Lundebrek says critical mass is needed for the industry to take solid root. "If we want ethanol to be the fuel of the future, we need to produce enough supply that (buyers) can depend on it." ■

Great Expectations

Ethanol is hot, but what is the long-term outlook for biofuel?

By Steve Thompson, *Assistant Editor*

Is ethanol the answer for corn producers?

Across the Midwest and Great Plains, 75 ethanol production facilities are now in operation, with an additional 13 under construction. Fuel ethanol consumption is climbing briskly, and over 3 billion gallons are expected to be produced in 2004, adding $15.3 billion to the gross domestic product and supporting 143,000 jobs.

Whatever its future, there's no doubt that ethanol is a growth industry at the moment.

Most domestic ethanol is produced by fermenting corn, and corn growers see production of the fuel as a hedging tool against low commodity prices and a way to add value to their product. Currently, the ethanol market is very attractive, with ethanol consumption in the United States climbing apace with the expansion of production.

But is ethanol production an answer to volatile corn prices? Does it offer farmers a stable source of income? Is it possible to find the capital to start up an ethanol plant without bringing in outside owners? And will a farmer-owned ethanol plant provide an acceptable rate of return on investment?

The answer to those questions is a resounding "maybe."

Successes and failures

Glacial Lakes Corn Processors is a new-generation cooperative that operates an ethanol plant in Watertown, S.D., through a limited-liability corporation, Glacial Lakes Energy LLC. By all accounts, the operation is doing quite well. It is entirely locally owned and has succeeded in its goal of raising the local price of corn received by area farmers. (See page 21.)

The plant is performing beyond expectations: with a rated output of 40 million gallons per year, it actually produces closer to 50 million gallons, helping to put its accounts firmly in the black.

Tri-State Corn Processors has another story to tell. Formed by farmers in and around the small agricultural town of Rosholt, S.D., Tri-State recently filed for bankruptcy after being closed for an entire year. With a much smaller capacity than the Glacial Lakes plant, Tri-State's facility was unable to operate even in the ballpark of its design specifications, and was unable to raise the capital needed for repairs and modifications.

The co-op hopes to get the plant up and running under a Chapter 11 plan that will have the plant operating at capacity while fully paying off all creditors. But local farmers and creditors have taken a big financial hit, and it will be years before their community recovers. (See page 32.)

Ethanol's appeal rests on the expected growth in its demand for use as a fuel additive or alternative fuel. As the most economical substitute for methyl tertiary butyl ether (MTBE) — a gasoline additive used to meet Environmental Protection Agency requirements in certain markets —

ethanol would seem to provide rich value-added opportunities for farmers (see sidebar). And current high petroleum prices have made it attractive as a fuel extender — a way to stretch the supply of gasoline.

However, to be practical for these uses, ethanol's price must be close to that of gasoline. And therein lies one important rub.

Subsidy rate extension key to ethanol's future

Currently, the use of ethanol in motor fuels is subsidized through a reduction of up to 5.3 cents a gallon to the federal excise tax of 18.3 cents, which is paid by gasoline marketers and refiners. However, the tax reduction is due to expire in 2007, requiring Congressional legislation to extend it. While such extensions have been passed before, the 2003/2004 energy bill, which contained further extensions, was stopped by a filibuster in the U.S. Senate due to opposition to the subsidy as well as other issues.

Another possible monkey wrench in the works is a plan by the Cargill Corporation to import ethanol from Brazil via El Salvador. El Salvador is one of the countries covered by the Caribbean Basin Initiative, which allows for duty-free importing of goods manufactured in participating nations. Up to 7 percent of a previous year's domestic ethanol output can be imported under current law, which means that up to 230 million gallons could enter the United States under the tariff barrier this year.

By producing the ethanol in Brazil from sugar cane, Cargill can lower costs of production dramatically. Brazillian ethanol costs about 60 cents a gallon, while ethanol "rack prices" in the Midwest in early July were averaging about $1.80 per gallon. Refining ethanol to fuel grade in a plant in El Salvador, as proposed, would mean the $60 billion agribusiness firm could not only further undercut costs, but avoid duty payments, allowing it to underbid domestic producers easily.

California, the largest oxygenated fuel market in the United States, has banned the use of MTBE as a gasoline additive, and the EPA may decide to ban the substance nationally. The excise tax credit is not the only help offered ethanol producers by the federal government.

USDA programs support bioenergy development

Through its Bioenergy Program, USDA's Commodity Credit Corporation offers assistance to ethanol and biodiesel producers, helping compensate them for the cost of increased commodity purchases, for the expansion of production in existing facilities and for starting new ones. In 2002, CCC paid $78.7 million for nearly 228 million gallons in increased ethanol production.

USDA Rural Development offers the Biobased Products and Bioenergy program, which provides loans through its Business and Industry (B&I) program for projects that convert farm and forest products into energy. Through its Cooperative Services office, USDA Rural Development also administers the Value-Added Producer Grants program, which provides funds for planning and working capital to agricultural co-ops for marketing value-added agricultural products, including biofuels (for a list of VAPGs issued to date for alternative energy projects, see page 34).

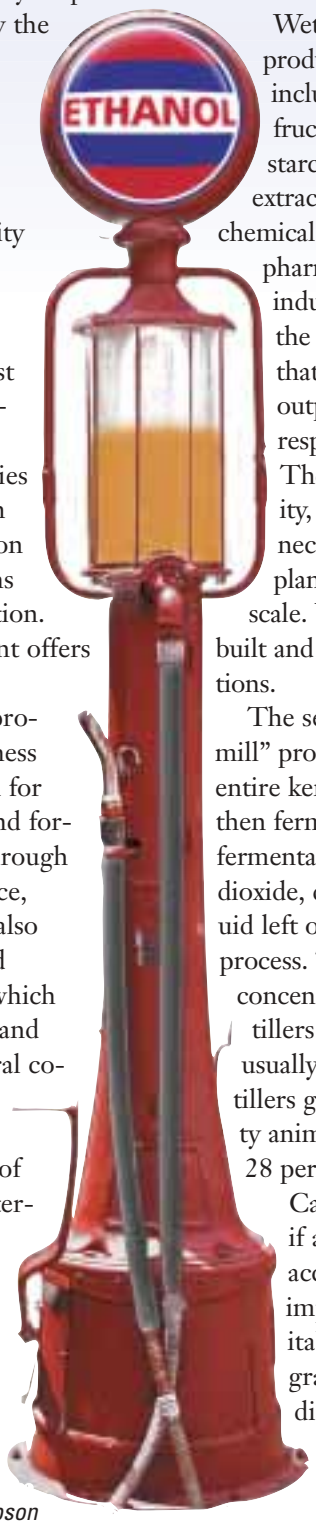
Many states also offer incentives for ethanol. Minnesota subsidizes ethanol at 20 cents per gallon, and requires all gasoline to contain ethanol or other oxygenators.

Two types of processes are used to produce ethanol from corn. One, called the "wet-mill" process, soaks the corn kernels in water so that their components can be separated mechanically, before grinding the starchy part of the seed for fermenting into ethanol.

Wet-milling can be used to produce a wide range of goods, including corn syrup, high-fructose corn syrup, corn starch and corn oil, as well as extracting complex high-value chemical compounds for use in the pharmaceutical and other industries. The flexibility of the wet-mill process means that the operator can switch output to different products in response to market changes. The down side is its complexity, high expense and the necessity to build very large plants to achieve economies of scale. Wet mills are generally built and operated by large corporations.

The second method, the "dry-mill" process, is much simpler. The entire kernel of corn is ground and then fermented. The products of fermentation are ethanol, carbon dioxide, distillers grain and the liquid left over from the distillation process. This remaining liquid is concentrated into condensed distillers solubles (CDS), which are usually combined with the distillers grain to make a high-quality animal feed containing about 28 percent protein.

Carbon dioxide can be sold if a market for it is easily accessible, but it is not an important factor in profitability. The sale of distillers grain, however, often is the difference between profit and loss.



Graphic by Stephen Thompson

Success factors

The success of a farmer-owned ethanol plant hinges on a number of factors, including the following:

- **The supply of corn.** Transportation costs for corn are a significant factor; the plant usually must be able to depend on getting its corn within about 30 miles.

- **The price of corn.** The higher the price of corn, the lower the profit margin of the operation. Even at $1.60 per bushel, grain costs make up half of total operating expenses.

- **Accessibility to transport.** If a local or regional ethanol market exists, the product can be moved by truck, at costs between 2 and 7 cents per gallon. Transporting ethanol to markets on either coast will cost at least 13 cents per gallon. For longer distances, the product can be moved by truck, but rail is more economical, and access to a rail spur can make a big difference in profitability. For a plant located on a navigable waterway, barge transport to the Gulf of Mexico and then transfer to ships may offer a highly cost-effective means to reach some markets — most notably California, which used to receive most of its MTBE through seaports.

- **Size of the facility.** Dry-mill ethanol plants are subject to economies of scale. The costs of labor and administration, for example, are very similar for a plant that produces 40 million gallons per year and for one that produces half that amount. The costs of construction, estimated at an average of about $1.50 per gallon of annual output, fall with increasing size up to about a 40 million-gallon yearly capacity. Above 40 million gallons, economies of scale in construction costs do not increase significantly.

- **Design and engineering.** Ethanol production is a mature technology, but incremental improvements continue to be made in efficiency and plant design. A well-thought-out and well-constructed plant design, taking into consideration the factors unique to the site, is fundamental to a successful ethanol operation.

- **Supply of energy.** Ethanol plants use large amounts of energy, usually

Clean Air Act kickstarted ethanol

In 1990, Congress amended the Clean Air Act to establish two programs to reduce air pollution from road-going vehicles by requiring changes in the formulation of fuel sold in certain designated areas. The Reformulated Gasoline (RFG) program was intended to reduce smog-forming pollutants such as nitrogen and sulfur oxides. The Oxygenated Fuels program was to reduce emissions of carbon monoxide.

Meeting the requirements of both programs meant that gasoline refiners selling in the affected markets had to add oxygen to their fuel.

The two substances most widely used as fuel oxygenators are methyl tertiary butyl ether (MTBE) and ethanol. MTBE is cheaper to use, but after a decade has been found to have some major disadvantages. One is its tendency to leak from storage tanks and contaminate groundwater. Another is that it evaporates readily, and breathing its fumes is unhealthy and may even lead to cancer.

Although the Environmental Protection Agency has not banned MTBE, some states, including California, have, resulting in a big demand for the only practical substitute for MTBE — ethanol.

Ethanol is ethyl alcohol — the same alcohol as in beer, wine and other alcoholic beverages. And it's produced in much the same way as distilled drinks such as whisky and vodka. Feedstock, usually corn, is fermented with yeast in large tanks and the alcohol produced by the fermentation is distilled. While distilled beverages usually contain about 50 percent alcohol, fuel-grade ethanol is distilled to be almost pure, except for a small amount of unleaded gasoline added as a "denaturing" agent to prevent the fuel's consumption by humans.

Approximately 35 percent of the ethanol molecule is oxygen. When added to gasoline, the oxygen in ethanol makes for cleaner combustion, reducing carbon monoxide emissions by up to 30 percent. Usually the fuel is mixed in a ratio of 1 part ethanol to 9 parts gasoline, but in vehicles configured to burn alternative fuels ethanol can also be used pure, or as an 85/15 blend with gasoline.

Contrary to allegations by some opponents of ethanol, the fuel does not require more energy to make than is available in the finished product. USDA's Economic Research Service calculates that it takes 1 btu of energy to produce 1.24 btu worth of ethanol.

— By SteveThompson

in the form of natural gas, both to distill ethanol and to dry distillers grain and CDS. Local gas prices are a vital factor in determining profitability, and locating the plant so as to minimize the costs of constructing a gas supply pipeline can be important in reducing start-up costs. Even better would be a location close to an existing manufacturing site that offers excess steam or electric power as a byproduct. For plants dependent on natural gas, rising gas prices can have a marked effect on profits: for a 40-million-gallon-per-year plant that dries its distillers grain, an increase of $2 in the price of a thousand cubic feet of gas will increase annual operating costs by nearly $5 million.

- **Market for distillers grain and CDS.** As with the supply of corn, the transport costs of delivering the fermentation byproducts to the end user weigh heavily in the profitability equation. In addition, the energy expended to dry distillers grain and CDS is a large proportion of total costs. Locating near a feedlot or other livestock operation that will use the entire output of distiller's grain saves significantly on transport costs. But even more important, a nearby animal feed user may allow the ethanol facility to deliver the product wet, which is not only preferred by the animals but saves as much as 50 percent in energy costs. Wet distillers grain has a shelf life of

Biodiesel: the 10 percent solution

Biodiesel is diesel fuel made from plant or animal products. It is produced by modifying fats and oils into a substance that can be used by diesel engines. The modification process, known as transesterification, is not complicated; in fact, some private individuals make biodiesel at home from used restaurant cooking fat for use in their own vehicles.

Biodiesel is not simple vegetable oil, although some people do burn unmodified vegetable oils in diesel engines. Doing so can cause problems, among them excessive carbon buildup in combustion chambers and reluctance to start.

Most biodiesel in the United States is made from soybeans, although lard, tallow, or any other biological source of fats can be used. European biodiesel production relies mainly on rapeseed, which offers a higher yield and can be grown in areas not suitable for soybeans.

Blue Sun Biodiesel is a limited liability company affiliated with a cooperative that proposes to produce biodiesel from rapeseed grown on the western High Plains area of Colorado and neighboring states.

Biodiesel is a superior fuel in many respects. It burns more cleanly than petroleum-based diesel, and also has higher lubricity and detergent properties. Among its disadvantages is the fact that its high detergency can loosen debris in fuel systems that formerly used petroleum diesel, clogging fuel filters for a while if they're not carefully watched.

At higher concentration, it can also degrade parts made of certain kinds of rubber. However, biodiesel is usually used as an additive in petroleum diesel at 10-percent ratio, at which level it causes few problems. The use of biodiesel is endorsed by all major manufacturers of diesel engines in the United States.

The EPA is promulgating regulations that will drastically reduce the amount of sulfur in diesel fuel. Sulfur is used as a lubricant for fuel-injection pumps and other diesel fuel system components. The removal of sulfur will mean that vehicles will emit fewer components of acid rain in their exhausts, but new additives will be needed to restore the necessary lubricity. Biodiesel added to diesel fuel restores this lubricity and results in lower emissions, as well.

Sulfur reduction rules are to go into affect in three years. That's good for the environment, says Doug Tiffany, a research fellow at the University of Minnesota who studies biodiesel. However, the low-sulfur fuel doesn't lubricate as well, so additives will be needed to keep fuel-injection pumps and other parts working smoothly. "Adding even 1 or 2 percent biodiesel restores the fuel's lubricating qualities, slowing engine wear and tear," he says.

Biodiesel backers also cite national self-interest as a reason to use the new fuel. The United States burns roughly 30 billion gallons of diesel fuel a year, equivalent to more than a quarter of the country's annual crude-oil imports. "By using more biodiesel, we are reducing our dependence on foreign oil and contributing to our own economy, while decreasing pollution," said Jenna Higgins, a spokeswoman for the National Biodiesel Board. "It's a win-win-win situation."

only three to six days, and because two thirds of its weight is water, a distance of 50 to 60 miles is the limit it can be transported economically. A 40-million-gallon-per-year ethanol plant will produce enough distillers grain every day to feed up to 240,000 or more head of cattle.

- **Financing.** Getting the necessary capital is the first and often most difficult hurdle faced by any startup operation. In the case of cooperatives looking to build an ethanol plant, financing can be especially problematic due to the difficulty of raising enough equity from the membership to enable obtaining funds from lenders. For a 40-million-gallon plant — the size considered the "sweet spot" in terms of economies of scale — a co-op of 3,000 members would require investments of $20,000 each.

Various methods for raising funds

Some co-ops, among them Mid Missouri Energy, have been able to raise the needed funds from producer members. Others have dealt with the challenge by establishing a limited liability corporation (LLC) to build and run the plant, which allows sharing ownership with outside investors.

In some cases, financing schemes have included granting partial ownership and sometimes plant management contracts to constructors. For co-op members, the issue in such arrangements can become whether or not they control or benefit from the operation in the end.

No industry operates in a vacuum, and, like any other, success in the corn-based ethanol business may stand or fall on factors over which co-op members have no control. While the industry is expanding now, a day will come when the market reaches saturation, and corn ethanol plants will find themselves in close competition.

Further competition may come in the form of technologies now being developed to produce ethanol from low-cost agricultural residues such as wood waste, corn stalks and cobs, stover, wheat straw and whey. Other possible low-cost feedstocks include municipal solid waste, switch grass and even fast-growing hardwoods.

While nobody can predict the future or determine every last variable, any cooperative contemplating an ethanol operation must do a rigorous due diligence before making a decision. ■

Balancing Act

Risk-hedging strategy big part of Iowa ethanol co-op's success

By Dan Campbell, editor
e-mail: dan.campbell@usda.gov

The success of an ethanol plant rests upon a four-legged stool, with the legs representing the ethanol, corn, dried distillers grain (DDG) and natural gas markets. You can't sit on that stool unless all four legs are planted firmly on the ground, advises Dave Nelson, board chairman of the MGP Ethanol cooperative in the north-central Iowa community of Lakota.

The price of corn and natural gas are the two major inputs that determine operating cost, and the value of ethanol and DDG are the major outputs that determine revenue.

"It's a balancing act, and it takes a savvy risk manager who knows how to hedge to do it right," says Nelson, who with two brothers has a 5,000-acre corn/soybean/hog farm.

In late spring, the cost of ethanol had everyone in the industry smiling. When interviewed in early June, Nelson said MGP was getting $1.30 a

Lab technicians at MGP Ethanol perform continuous testing to ensure the co-op's product meets the highest quality standards. Photo courtesy MGP Ethanol

gallon for its ethanol vs. $1.10 a year ago. It markets its fuel through a Texas-based broker, an arrangement which he says has been working fairly well.

Co-op leaders are well aware that the success or failure of ethanol plants also hinges on how well they can market byproducts. MGP has even adopted "Ethanol and more" as the co-op's motto. "But with ethanol doing so well, we are really concentrating on that market right now," Nelson says.

Estimating costs

The MGP plant devours a lot of corn — 17 million bushels annually. So, the goal is to buy as much corn as possible when prices are low, and to cutback to "hand-to-mouth" purchasing when the prices are soaring, Nelson says. Ethanol prices also ebb and flow, and the co-op strives to lock in advance sales as far as possible when it believes the market is peaking.

Transportation costs also play a big part in determining the cost of corn procurement. MGP Ethanol buys all of its corn within a 30-mile radius of the plant. But only 20 percent of the co-op's 1,000 members farm within that radius. Nelson is a case in point. His farm is located 60 miles from the MGP plant.

Like the other 80 percent of the members — who farm in Iowa, Illinois and Minnesota — Nelson works with others growers closer to the plant, who ship corn to MGP Ethanol on Nelson's behalf.

Most of the popular hybrid corn varieties grown in the area also have high yields of the fermentable starch desired for dry-mill ethanol plants. So no special corn varieties have had to be planted just for ethanol production, Nelson says.

MGP Ethanol recently completed its second year in operation and is running at better than 100 percent of capacity. It is producing at an annual rate of 48 million gallons from a plant that was rated at 45 million gallons.

Equity drive a struggle

The co-op was spawned by Ag Ventures Alliance, a rural business incubator that identifies value-added

Proximity to grain supply, livestock feeders key factors in ethanol plant site selection

Grain feedstock represents from 50 to 70 percent of the cost of producing ethanol, so having access to a reliable grain supply that can be procured at a reasonable price is the biggest single factor in deciding where to locate a plant, says David Coltrain, coordinator for the Kansas Cooperative Development Center at Kansas State University.

Proximity to large livestock feeding operations is another big advantage for ethanol operations in marketing dried distillers grains (DDGs). Not only does proximity to feeders cut transportation costs, but the DDGs can be sold in a semi-wet status, which means less natural gas is burned in drying it.

Natural gas is a major expense for ethanol operations. "It can easily cut a plant's natural gas consumption nearly in half, for approximately a 5-percent reduction in total operating cost for a typical plant," says Coltrain.

Kansas has six ethanol plants in operation, and one more under construction. Proximity to the state's large cattle feeding yards is a major asset for ethanol plants in the Sunflower state, Coltrain notes.

Availability of state subsidies can also help, Coltrain says. The federal subsidy is currently 52 cents per gallon, and many states offer additional subsidies, normally in the range of 5-10 cents per gallon for a limited amount of ethanol produced.

Another key factor is building a plant that is large enough to be competitive. At least 40 million gallons produced annually is widely considered to offer the best economy of scale.

Management and marketing expertise are the other big keys to success. Coltrain notes that some ethanol co-ops are less successful due to poor management. The talent pool seems to be steadily improving, he says, noting that some of the plant-building firms have established good training programs for plant operators.

Coltrain cites two recent research developments as showing great potential for the ethanol industry. The first development is close to reality while the second is "still down the road." University of Illinois researchers have developed a new method to remove the corn germ in dry-mill ethanol plants, which may reduce the cost of manufacturing ethanol by 10 cents per gallon by capturing the valuable corn oil as a co-product. University of Minnesota researchers have also produced hydrogen from ethanol in a reactor small enough to heat homes and power cars, offering new long-range market potential.

— By Dan Campbell

manufacturing opportunities for farmers. Once the business plan was in hand, it required 53 producer meetings in three states during 2000-2001 to raise most of the $22 million in equity needed for the $58 million plant. Members, who must be producers, were required to buy a minimum of 5,000 shares at a cost of $7,500. The average investment was $12,000.

"It wasn't easy," is Nelson's succinct assessment of the equity-drive process. Eventually, farmers put up $17 million, and the fledgling co-op was able to raise the additional $5 million with a bond. Members can sell their stock to other producers through the Allerus brokerage in Fargo, N.D.

MGP received a matching grant last year for $150,000 under USDA Rural Development's Value Added Producer Grant Program to study the potential for biodiesel production or expansion of the ethanol plant.

The co-op "shopped around" to find the right company to build its plant. "We did a spreadsheet and listed all the benefits and negatives of each candidate," Nelson says. Eventually, it went with ICM of Colwich, Kan., to design the plant and Fagan Co. of Granite Falls, Minn., to build it. "We're fairly happy with how it went, although there are always some things you would like to change," Nelson says.

The co-op hired a CEO, who in turn was given the latitude to hire his own management staff. "We were focused on finding someone who could not only operate the plant, but who could manage people." That man is Dan Hernandez, who now oversees a staff of 36 employees.

Iowa production to surge

Seven other dry-mill ethanol plants are currently operating in Iowa, with eight more under construction or in the planning stage. Nelson says he is glad the industry is expanding. "It needs to get bigger. And the way demand is increasing for energy, it will continue to get bigger."

One thing that must be watched, he says, is to not build plants so close to each other that they begin to cannibalize each others' fuel stock. But so far, that does not seem to be happening.

The industry is also spreading to more states, which Nelson says will help to increase political support for ethanol beyond the Midwest.

> *"The major problem for farmer co-ops in the ethanol industry is securing quality management."*
>
> *— David Morris*

He sees a trend toward new plants being pursued as producer-owned, limited liability corporations rather than pure co-ops. This is primarily due to the need to secure more outside investment capital from non-producer members. "It can also be much quicker and easier to raise capital from non-producers," he notes. But critics of such an approach say that producers may then wake up one day to find that they have lost control of their plants.

"The major problems for farmer co-ops in the ethanol industry is securing quality management," says David Morris of the Institute for Local Self Reliance, a Minneapolis-based educational organization that provides technical assistance and information on environmentally sound economic development strategies. Since co-ops are owned by farmers, and farmers comprise all, or at least the majority, of the board of directors, they control the operations. "But they often lack expertise in management, industry experience and entrepreneurial innovation — those are the key problems," Morris says.

On the other hand, the key asset for a co-op plant is its relationship to the farmers, he continues. "In the late 1990s, when corn prices were sky-high, corn farmers who owned ethanol plants were willing to take below-market prices to help the company, knowing that part, or perhaps even all of that, would be returned to them in higher dividends," Morris says.

"Another key problem is not the co-ops themselves, but the lack of federal (and sometimes state) policies that give local and farmer owners a higher priority," Morris adds. "The federal incentive and grant programs do not distinguish between an absentee-owned plant and a farmer-owned plant."

Good timing

"The timing of this strong ethanol market has been perfect for co-ops formed in the past four to five years," Nelson says. And it's been good for consumers too, he adds, noting that gasoline prices would be significantly higher were it not for ethanol.

Predictions that Midwest farmers will continue to see corn yield increases of 1.5 bushels per acre each year for the foreseeable future bode well for the supply being sufficient for both livestock feed and ethanol production, he notes.

Nelson says his best advice to other farmers looking to go into ethanol is this: "Just make sure you have the time and energy for it. It takes a tremendous amount of time. We met every week for two years in developing the co-op. So you need to make sure you are paid for your time. You can do it in a shorter time frame if you hire someone else to do it all for you, but then it's not really your plant." ■

Community investments helped launch plant

By Steve Thompson, Assistant Editor

Glacial Lakes Corn Processors Cooperative shows just how successful a farmer-owned ethanol operation can be when conditions are right. Located in Waterton, S.D., Glacial Lakes was begun for much the same reasons as many others: with only one elevator in town, corn producers didn't have a good market for their crop.

Adding value by turning their crop into ethanol seemed to be the best answer to chronic low prices. So 11 local farmers decided to take on the risk, and founded the cooperative in September 2000 to start an ethanol operation.

After hiring a general manager and a manager to oversee construction of the plant, Glacial Lakes signed up two firms with proven track records in building ethanol facilities. ICM of Colwich, Kan., was chosen to design the plant, using its own proprietary technology, in cooperation with Fagen Inc., of Great Falls, Minn., which would build it.

Fagen and ICM had worked together on a number of previous successful projects — starting out building power plants and later getting into ethanol production — and they had excellent reputations among ethanol producers. ICM also has a successful grain merchandizing operation, through which it markets the byproducts of ethanol distillation: distillers grains and liquid stillage for livestock feed.

Struggle for funding

As usual for new business ventures, the stumbling block was financing. The plant was projected to cost $54 million, and to obtain financing from lenders, the co-op needed to raise at least $20 million. Even the smaller amount was far more than local farmers could come up with. The co-op looked into partnerships with corporations and other entities, but soon ran into issues over who would control the operation.

Glacial Lakes Ethanol stresses community involvement, including fun activities such as this winning entry in the Watertown, S.D., 4th of July parade. Photo courtesy Glacial Lakes Ethanol

Says Tom Branhan, the current general manager, "The problem was, they wanted management of the plant as part of the deal." The co-op members weren't ready to accept being, as they saw it, passive spectators in their own operation.

The alternative was raising the funds from individuals, not necessarily farmers — but this meant moving away from a strict farmers' co-op model. The co-op began an equity drive in March 2001, making available shares of common stock in a new entity: Glacial Lakes Capital, LLC.

To keep the venture from becoming a South Dakota firm in name only, ownership of shares was limited to residents of the state, and the equity drive concentrated on members of the local community. While the success of the plant promised a boost to the area, raising funds among local residents was much more difficult than more conventional ways of financing.

It meant making sales pitches to hundreds of people, many of them on an individual basis, and many of whom could not afford to risk very much of their capital.

But the community came through. In the end, Glacial Lakes raised the necessary nest egg through sales of stock to more than 825 residents of the surrounding area. In June 2001, the co-op and the LLC agreed to merge and formed Glacial Lakes Ethanol, LLC. Construction began the following month. The plant began operations in August 2002, and has operated consistently above its rated capacity of 40 million gallons per year, providing a welcome head start on retiring the operation's debt.

Lessons learned

Are there things they would do differently if they had to do it over? Yes, says Branhan. Most of them have to do with changes in the layout of the plant to improve traffic patterns and loading of trucks. "There are things that could have been done differently to make the plant more user friendly, make it easier to keep clean," he says. But he wouldn't change the mechanical design. "We've got no complaints about that. Ron Fagen still questions me about the operation of the plant so they can

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Lost Horizon

Membership 'horizon' problem preceded demise of MCP

By Anthony C. Crooks, Ag Economist
USDA Rural Development

At the time that farmer-owned ethanol co-ops and LLCs began popping up like wildflowers after a spring rain, the nation's biggest and oldest producer-owned ethanol operation — Minnesota Corn Processors (MCP) — decided it was time to close up shop, selling out to agribusiness giant Archer Daniels Midland (ADM) in 2002. Why MCP chose to exit the industry just at the time when the ethanol market was starting to boil caused considerable second guessing at the time, and with the good times the industry is currently enjoying, the Monday morning quarterbacking has certainly not diminished.

While the demise of MCP as a producer-owned business has been well covered in the press, the spotlight has perhaps not focused as sharply as it should on the membership horizon problem the co-op was facing at the time. It's a problem nearly every co-op faces to some extent, and is certainly a factor in some of the other recent proposed co-op sales and conversions.

In the case of MCP, cash-strapped members of what started as a New Generation co-op (before converting to an LLC) were offered a deal that paid them three times the depressed price their stock was trading for at the time, and the majority voted for the deal. Many of them have since objected bitterly that the board and membership were forced into a "rush to judgment," and that the process should have been considered much more closely than it was before the vote was taken. One director has even been quoted as saying the board spent more time considering the purchase of one elevator than it did on the sale of the entire MCP business.

MCP launch helped spark NGC movement

In the early 1980s, corn and soybean farmers were caught up in the fervor of the early stages of what came to be known as the New Wave, or New Generation, cooperative movement. But while it may have had some of the earmarks of a religious revival, this movement was rooted firmly in the material world. At co-op organizational meetings, state economic development specialists and others preached a "gospel" of self-help and collective action in pursuit of new, value-added agricultural ventures.

The New Generation Cooperatives (NGC) promised to address shortcomings of the traditional farmer marketing cooperative structure, while maintaining the principles and benefits of collective action.

MCP was formed during this period in Marshall, Minn., by a group of reasonably successful farmers. They saw an opportunity to become a link in the value-added chain, intending to use this new-style cooperative structure to generate income by building a wet mill corn processing plant. They set up the

The former Minnesota Corn Processors plant, now owned by ADM, near Marshall, Minn. Photo by Greg Devereaux, courtesy Marshall Independent
Background: America's abundant fields of corn and soybeans yield fuel that doesn't have to be imported. Photo courtesy CHS/LOL

co-op accordingly, agreeing to do a number of things differently than is typical with traditional co-ops. It started by processing corn starch, soon shifted into ethanol production and eventually added high fructose corn sweeteners (HFCS) to its products.

A difficult start was followed by a number of successful years. Within a year of the move to add HFCS to its product line, much of the soft drink industry switched over to HFCS, so for a time that product proved to be a great asset to the co-op. But eventually a combination of factors — including drought, high corn prices and a saturated market for corn sweeteners — combined to suck the wind out of the co-op's sails. Another major factor was a horizon problem, in which the supposedly marketable equity shares in the co-op could not be sold due to a lack of other producers interested in investing in the plant.

Traditional vs. New Generation co-ops

A successful traditional marketing cooperative offers two principal benefits: (1) a reliable market at a fair price for the members' product and (2) patronage refunds at the end of a successful marketing year.

But there are problems with the traditional model. Because membership shares can't be sold on the open market, they aren't liquid and there is no way to confer upon the bearer expected present value of the firm's future earnings. In other words, the value of the stock doesn't go up to reflect the success — present or anticipated — of the business, and the owner can't easily pass on his investment in the co-op to someone else.

An NGC is different. One of its major attractions is that the benefits of ownership accrue not just through members' patronage, but through their equity investment. Just as with stock-trading, investor-owned firms (IOFs), a well-functioning secondary market is expected to confer upon the stock owners the option of cashing out their equity investment when they want to reduce or cease their dealings with the cooperative. They are also provided the opportunity to make capital gains on their equity investment.

However, these benefits are contingent upon the existence of a market for the NGC's stock. If such a market doesn't exist, or exists only in theory, this ownership benefit is reduced to those of the traditional co-op. As a result, rationally behaving NGC members, lacking a way to accrue or realize the equity they anticipated, can be expected to pressure the cooperative to increase current earnings at the expense of future investment and earnings. This conflict of planning horizons — today's earnings vs. tomorrow's returns, is called a horizon problem.

This can occur when members pressure the co-op into making unrealistically large cash payouts, speeding up equity retirement programs or liquidating co-op assets (see sidebar, page 24). In the case of MCP, it contributed to the complete liquidation of the co-op's assets through the sale to ADM.

Proud beginning

In 1980, MCP leaders proposed to not undertake this new ethanol enterprise on the cheap, as is often the case with traditional marketing co-ops. Every prospective member had to make a substantial investment, at least $10,300 in equity capital to build the plant.

And for each share of stock the members purchased, they received *the right and the obligation* to deliver corn to the cooperative, along with a residual claim on the net returns of the cooperative. In addition, their equity was tied directly to those delivery rights — which would be transferable and for which it was expected that a secondary market would develop.

In 1983, MCP began operating a $55 million plant on the north side of Marshall, Minn. Equity had been raised by farmers who purchased stock in 5,000-bushel increments. The co-op also received $1.9 million in tax assis-

tance from the city.

MCP struggled to break even for the first four years. By its own admission, members were just farmers trying to find their way in a new business and a new industry. They first had to learn how to manufacture a product to a customer's specifications — and they nearly went broke in the process. But by 1987, they had expanded into ethanol production, worked bugs out of their delivery system and had started to turn a profit.

Even the Minnesota legislature was caught up in the excitement over ethanol. Seeing public investment in farmer-owned fuel ethanol plants as a positive way of supporting rural communities, Minnesota lawmakers developed a plan to subsidize plants on a per-gallon basis. MCP received approximately $33 million in ethanol production subsidies from Minnesota during the next 10 years.

New Wave flagship

The MCP plant soon became a great source of pride to a large number of people. And rightly so — success has many fathers. In an area with a rich tradition of collective action, this New Generation cooperative was assuming a leadership position in a new industry, in its community and state, as well as among farmer cooperatives. Better still, it was returning some real money to its members.

For the next seven years, and especially from 1991-95, the cooperative grew in number of locations, capacity and prosperity. A plant in Columbus, Neb., was added in 1991. Further expansion occurred, including the addition of high fructose corn sweetener production in 1995 — a move which required the co-op to borrow $124 million.

By that time, the cooperative was becoming a major player in the agri-

Co-op horizon problems: do you have one?

Editor's note: the following is based on "The Structural Characteristics of Farmer Cooperatives and their Behavioral Consequences," by John M. Staatz, which appeared in Cooperative Theory: New Approaches, USDA/ACS Service Report 18, July 1987.

A marketing cooperative is said to have a horizon problem when its members pressure management to:

Increase the proportion of cooperative's current payments to members relative to investment, i.e., a larger "cash payout";

- Speed up equity retirement programs and/or increase the dividend paid on capital invested in the organization; or
- Liquidate the cooperative's assets, in whole or in part.
- The horizon problem may be mitigated somewhat, however, if membership in the cooperative can be "sold" with the farm. Selling the membership allows the expected future earnings of the cooperative to be capitalized into the farm's sales value. This valuation/capitalization is even more straightforward when the farm is incorporated and the corporation itself is a member of the cooperative.

The horizon problem may also be reduced somewhat if the cooperative provides for an inter-generational transfer of membership within families. Whether retiring members derive satisfaction from bequeathing their heirs a stronger cooperative, or desire to gain a higher retirement from the association, the effect is the same: older members are more willing to help with long-term financing of the cooperative, even though they will not benefit directly from their investments.

If the cooperative has a completely open membership policy, then the value of the cooperative may also be fully capitalized into a farm's sales value.

In smaller cooperatives — particularly those in which the members are strongly tied to one another, whether by common social or religious beliefs — the horizon problem may be diminished by older members' moral obligation to their predecessors to leave a stronger cooperative to their heirs.

Extreme horizon problems

Members often pressure a cooperative's decision makers to increase current payments at the expense of future earnings when the expected value of the cooperative may not be fully realized.

A cooperative is said to have an extreme horizon problem if:

- The per-member capital investment in the co-op is large;
- The co-op has a closed membership;
- Few of the member firms are legally incorporated;
- The intergenerational transfer of membership within families is prohibited;
- The co-op has a large and/or diverse membership.

culture industry, standing among corn-processing giants such as Cargill and ADM. The value of the membership's initial investment more than doubled as stock appreciated from an initial offering price of $2.06 to $4.50 in the mid-1990s. And, as a result of several stock splits in the mid-1980s, charter members more than tripled the value of their holdings. There were reports of paper millionaires among initial investors during those halcyon days.

"Fighting for our lives"

However, the flagship was soon buffeted by very heavy seas, and began taking on water. Market shocks, competition from a sister NGC and some glaring gaps in oversight in the cooperative's operations all combined in 1996 to give MCP a very hard lesson in the realities of being a major player in the commodity manufacturing business. Board Chairman Jerry Jacoby, Springfield, Minn., told the Minneapolis *Star-Tribune* "forget all the warm, fuzzy buzzwords of 'farmer-owned' and 'value-added.' We were in a fight for our lives."

Cost overruns from the 1995 expansion made for a rough start in 1996. But the cooperative's most serious difficulties were caused by a drought that began in 1995 and persisted into 1996, causing corn prices to skyrocket. And because it had no hedging strategy to lock in its offering price to members, MCP found itself especially vulnerable as the costs of its feedstocks nearly doubled.

Grain marketers traditionally use the futures market to protect themselves against major price movement. But MCP's leaders believed that the market assurances offered by a hedging operation were, if not redundant, surely an extravagance, because their members were contractually obligated to deliver grain. They soon learned that they were wrong.

Members had the option of selling corn in 1996 for a high farm-gate price or supporting their co-op, and many chose the former (although they still had to deliver what they were contractually obligated for). The fact that so many declined to sell additional corn to their co-op when it was badly needed led some to say greed won out. Others said it was simply farmers doing what they had to do in order to survive. Regardless, in hindsight it is obvious that management should have been hedging, just as almost everyone else was.

Too many mouths at the trough

If the price of either ethanol or high fructose corn sweetener were tied to its cost of production, the cooperative might have been able to pass on a portion of its higher costs to its customers. However, product prices were, if anything, inversely related to production costs in 1996, as MCP and all market participants discovered. And fructose prices were not improved later that year when Mexico closed its borders to imports of the sweetener in order to shore up its own market.

But the worst blow to the co-op members may have come at the hands of another NGC. Corn fructose prices went into a two-year tailspin with the arrival of another competitor in the already saturated market. It's hard to imagine a worse time for the opening of the $261 million ProGold corn sweetener plant in Wahpeton, N.D. Just how unfortunate these circumstances were became clear when ProGold was forced into an alliance with Cargill, which soon acquired it outright.

In the words of a board member quoted in the *Star Tribune*, MCP "ended 1996 with an upside down balance sheet." The cooperative realized net losses of $63 million, had acquired long-term debts in excess of $410 million, and its bankers were demanding payment.

Distress signals

By early 1997 it was clear that MCP was in need of a rescue. The cooperative needed, if not a savior, certainly a sympathetic partner to help pay its bills and get it through a very tight spot. There was no shortage of interested parties. Candidates included Cargill and A.E. Staley Mfg. of Illinois. However, the MCP board was most receptive to ADM's chief, Duane Andreas. Andreas was seen as "calm, well-spoken, down-to-earth and easy to deal with," according to reports in the *Star-Tribune*.

The MCP board chose ADM in 1997 as the best possible suitor because its requirements were the least onerous. In return for the $120 million in cash that the cooperative received to pay its bankers, ADM received only 30 percent of MCP's stock and asked for a very limited oversight privilege: the corporation wanted to be consulted before any major capital investments were undertaken.

With its bankers appeased, corn prices returning to normal levels and a modest recovery of the fructose and ethanol markets, MCP began to turn things around in 1999, with significant gains in revenue and net returns. And with continued progress over the next two years, MCP was able to report modest net returns and reduce its long-term debt by 40 percent, to $245 million.

Short-term respite

Meanwhile, a significant but relatively unnoticed transformation occurred in the cooperative's legal structure and bylaws. In 2000, MCP went through a tangle of legal procedures to convert from a Minnesota Cooperative to a Colorado Limited Liability Company (LLC). The reason given was "tax purposes."

Perhaps it was, but of significantly more consequence may have been the fact that, as a LLC, MCP was no

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MFA Oil committed to development and marketing of renewable fuels

By Diane Searcy
MFA Director of Communications

When Jerry Taylor stepped to the podium in November 2003 to address delegates and employees of MFA Oil Co., it was a momentous occasion for him and for his cooperative. MFA Oil was entering its 75th year in business and Taylor was addressing the group for the first time as its president.

Paying tribute to past leaders, Taylor listed some decisions they made that ultimately positioned MFA Oil at or near the top of Missouri's fuel suppliers and, in the case of propane, near the top nationwide. He reminded his audience that their company had been conceived in 1929, survived the Great Depression and the war years, and then flourished when post-war prosperity put an automobile in every driveway and a tractor on every farm.

Turning from the past to his vision for the future, Taylor promised the member-owners that, under his leadership, focus would be placed on making MFA Oil "the trusted rural energy expert."

"To accomplish that," he said, "we must continue to deliver the highest quality products in the marketplace, and they must be the *right* products." Chief among the right products, he declared, are biodiesel and ethanol-blended gasoline. He went on to reaffirm MFA Oil's continuing commitment to marketing those products.

Early commitment

MFA Oil's involvement with renewable fuels goes back to the late 1970s, when the company first began distributing ethanol-blended gasoline, then

In the wake of the Sept. 11 terrorist attacks, Congress and the press increased their support for renewable fuels.

Ethanol refineries, such as this plant, should be located in an area where most of their grain needs can be secured within a 30-mile radius.

known as gasohol. High ethanol prices forced it to drop the blends after about a year.

The mid-1980s was a period of growth for MFA Oil. While maintaining its agricultural base, the cooperative entered the convenience store business and established a series of company-owned and operated stores, called Break Time, throughout rural Missouri. In another move designed to capture more of the increasingly mobile, price-conscious customer base, MFA Oil was one of the first businesses in the state to actively promote the unattended fueling site with its Petro-Card 24 operations.

MFA Oil Company, established in 1929, celebrates its 75th anniversary in 2004.

So by 1989, when increased efficiencies in production of ethanol, the phase-out of lead in gasoline and changes in tax laws made marketing ethanol-blended gasoline cost-efficient, MFA Oil was perfectly positioned to sell it.

A couple years later, representatives of the Missouri Soybean Association approached MFA Oil management and requested that the co-op supply diesel fuel for a research project to be conducted at the University of Missouri-Columbia. MFA Oil agreed and began supplying soy biodiesel to two rural electric cooperatives in central Missouri. At the time, however, demand for the product wasn't great enough to justify keeping the biofuel in the company's product line.

That changed in 2002. In the wake of the terrorist attacks on Sept. 11, Congress and the press increased their support for renewable fuels, and MFA Oil's member-owners, whose crops are used to formulate biodiesel, started asking for the product. MFA Oil responded by making soy biodiesel available to customers throughout its market area. All blends were available, but B2, which the company sold at 2 cents per gallon over the price of its premium diesel fuel, was the biggest seller.

Response was immediate. In a state that has nearly 5 million acres planted to soybeans, farmers led the way as consumers embraced the product MFA Oil marketed as "homegrown fuel — good for vehicles and equipment, good for the environment, good for America." Between March and August, the cooperative sold nearly 2 million gallons of soy biodiesel. In 2003, sales totaled 8.4 million gallons, and MFA Oil projects an increase of at least 10 percent in 2004, which means biodiesel would account for nearly 10 percent of total diesel sales.

MFA Oil supplies biodiesel to power trams at the Missouri State Fair. Photo courtesy of MFA Oil

Long history with ethanol

While MFA Oil's active promotion of soy biodiesel is relatively new, the cooperative has a longer history marketing ethanol-blended gasoline. In the early 1990s, when a federal excise tax reduction made it feasible to sell the blended product at the same price as regular unleaded gasoline, MFA Oil made that the focus of its marketing efforts at Break Time convenience stores and Petro-Card 24 self-fueling sites.

Although both auto and small engine manufacturers approved the use of a 10 percent ethanol blend, some consumers were skeptical and acceptance of the blended fuel was limited. But MFA Oil believed in the product and continued its marketing efforts throughout the 90s and into the new millennium. In 2003, the cooperative sold 32.4 million gallons of super unleaded gasoline, a 10 percent ethanol blend, which amounted to 25 percent of total unleaded sales. Projections are for a 20-percent increase in 2004.

Also in 2003, MFA Oil started selling E-85, a blend of 15 percent gasoline and 85 percent ethanol, at selected sites. E-85, which can be used only in "flexible fuel vehicles," has the potential to significantly reduce dependence on foreign oil and promote better air quality.

For more than 30 years, MFA Oil has been committed to development and marketing of renewable fuels, working closely with the Missouri Corn Growers Association and the Missouri Soybean Association. Jerry Taylor's keynote address at the cooperative's 74th annual meeting was a rededication of the company's policy to aggressively market products that use crops grown by its farmer-members. ■

Buying biodiesel 'off the rack'

CHS investing in new injection technology to streamline biodiesel blending process

By Steve Richter
Editor, *Cooperative Partners*

Pre-blended biodiesel may soon become as easy to buy as a pair of pants now that it is available off the rack — the bulk fuel load-out rack, that is.

Continuing to forge the way in building the biodiesel distribution infrastructure, CHS Inc. has installed injection equipment at McPherson, Kan., and Council Bluffs, Iowa, and bulk fuel terminals and injection equipment at McFarland, Wis. At these locations, Cenex Ruby Fieldmaster now can be blended with biodiesel as it is pumped into fuel transports.

CHS has long been a proponent of soy biodiesel. To help propel its use, the cooperative has developed loading facilities and supported marketing and education efforts through the United Soybean Board and state checkoff boards.

Introduction of biodiesel injection technology at terminals by CHS is an industry first. Until now, cooperative fuel suppliers have been required to add soy methyl ester, the basis of biodiesel, to diesel fuel at local loadout locations after it was transported from terminals.

Building critical mass

To Hays, Kan., producer Harold Kraus, pre-blended biodiesel is a significant development for producers, their co-ops and other industry players. He predicts the new capability will drive more critical mass for the biodiesel market, making broader use of soybeans.

Besides providing greater efficiency and economy for local cooperative fuel dealers as they supply their rural customers, terminal biodiesel injection

Harold Kraus, a member of the National Biodiesel Board, attended a press conference at the fuel terminal in McPherson, Kan., in April, where media learned about new technology that allows Cenex-branded fuel distributors to buy pre-blended biodiesel at the terminal. Photo by Steve Richter, courtesy CHS/LO'L

makes it more likely the steadily growing soy-based fuel will be offered at non-farm outlets. Wider availability at truck-stop pumps, for example, will help the budding biodiesel industry tap the much broader, over-the-road diesel market, Kraus points out.

A member of the National Biodiesel Board representing the Kansas Soybean Association, Kraus says his local fuel supplier, Midland Marketing Cooperative, is into biodiesel sales and supply in a big way, after taking the first steps more than a year ago.

Stan Maskus, Midland Marketing petroleum manager, says the board developed a long-range plan that includes a focus on crop-based fuels — both ethanol and biodiesel. The directors have several overriding reasons to promote the plan: Alternative fuels make more use of crops produced by co-op customers, they lessen dependence on foreign oil, and they provide clean-burning, renewable alternatives to the finite fossil-fuel supply.

Biodiesel also offers a realistic option for replacing the lower lubricity levels in reduced-sulfur diesel fuel, mandated for off-road use by 2006. In everyday use on farms, biodiesel already has proven to be equal or better than conventional diesel fuels.

"There's no detectable difference in equipment operation, particularly at the 2-percent level," says Kraus, who practices no-till in his irrigated operation on the western edge of the Kansas soybean belt. A confirmed premium diesel fuel user for a number of years, he particularly likes Ruby Fieldmaster B2, the biodiesel version of the Cenex premium fuel.

Advocates for expanded capacity

Kraus and his co-op have been ardent advocates for expanding the capacity and capability of the cooperative fuel distribution system.

Bob Metz, chairman of the National Biodiesel Board who grows 2,000 acres of soybeans, corn and wheat on both sides of the South Dakota/Minnesota border, applauds the enthusiasm coming from Kansas and everywhere soybeans are grown.

Both Kraus and Metz would like to see biodiesel receive more federal support to help boost the fledgling industry so it can eventually begin soaring like its older sibling, ethanol. Last year's proposed energy bill, which fell

short of passage in the Senate by two votes, contained tax provisions beneficial to biodiesel.

These tax-incentive provisions, which amount to $1 per gallon of soy ester, have survived in a proposed highway spending bill that would provide six-year funding for road improvements across the country. The first-ever biodiesel tax incentive would be available to diesel excise taxpayers and other fuel distributors who purchase biodiesel and blend it into diesel fuel. The end result would be reduced cost for end consumers in both taxable and tax-exempt markets.

Al Anderson, CHS vice president, governmental and public affairs, says record-high oil prices have heightened the urgency of discussions involving the energy and transportation bills, which could improve the prospects for passage of biodiesel incentives.

"CHS will be well positioned when the biodiesel tax incentive is passed because the incentive will likely be taken at the terminal level," says Metz. "This latest investment by CHS in improved distribution infrastructure further demonstrates the company's commitment to biodiesel and the soybean farmers who grow the seedstock to make this new fuel." ■

Farmers burn more of what they grow with E85

Around Danvers, Minn., John Carruth is known as a standup guy. Honest and hard working, a pillar of the community who has built a 4,000-acre farming operation that is now run by his three sons. Over his 71 years, he's been on more local, state and national boards than he can remember.

But when it comes to promoting and using ethanol and the new E85 blend, Carruth has been known to engage in a bit of subterfuge.

"My wife Elaine doesn't know it, but she's running on E85 in her LeSabre," says Carruth. "We've got a couple of flex-fuel vehicles and I use it about half and half in my Ford Ranger pickup that isn't equipped for it, and it works just fine."

E85 — "E" stands for ethanol and "85" for 85 percent content — is a blended fuel made from domestically produced corn. Extensive testing has shown that its performance is similar to that of gasoline, and its price is usually well below unleaded regular. Octane ratings for E85 are between 100 and 105.

Joel James, assistant manager at Glacial Plains Cooperative, Benson, Minn., where Carruth buys his fuel, is also enthusiastic about the growth and future of E85. "We pumped our first gallon of E85 in January 2000," James says. "Even before we put the pumps in Appleton (Minn.) this year, we were pushing 200 customers.

"It's the flex-fuel vehicles we're going after. One big potential is government and post office vehicles. There are some company motor pools that can use it and, of course, farmers." The potential customer base grows every year as auto makers produce more flex-fuel vehicles. "There are a lot of people driving flex-fuel cars that don't know it," James adds.

John Carruth fills up at Glacial Plains Cooperative's E85 pump in Benson, Minn. Photo courtesy CHS/LO'L

A big incentive for local cooperatives that opt to offer E85 is minimal infrastructure change. "Basically we installed a new tank in Benson," James says. "It's double-walled and in Appleton we're using an existing, below-ground tank. And there's some signage that has to change when you offer E85."

Ethanol-gasoline blends also change with the seasons, says James. More gasoline is in the mix during winter to help with starting. But E85 can be transported in existing tank trucks with some minor precautions throughout the year.

"I really like promoting E85," James adds. "It's good for the farmers and the environment, and I'm really proud of the co-op system for taking the lead in this. I'd much rather have the price of corn go up than the price of foreign oil."

"As farmers, we know how to grow corn," adds Carruth. "I was just over looking at some of our irrigated corn and it's going to run 200-plus. The only problem we have with ethanol is knowing how to market it. And we're doing a lot better at that."

— By Mark S. Johnson, Managing Editor, CHS-Land O'Lakes

The right thing

GROWMARK's Kelley says time is right for renewable fuels to gain larger share of market

By Ann Hastings,
GROWMARK Communications Director

There are many reasons why agricultural cooperatives have made a significant commitment to renewable fuels, but they all come down to a central theme: It's the right thing to do. Dan Kelley, chairman of the board and president of Bloomington, Ill.-based GROWMARK Inc., says the cooperative system he serves has nearly 30 years of commitment to the distribution, use and promotion of renewable fuels.

The right thing for U.S. farm industry

"As a farmer, it's imperative to build additional markets for the crops I grow. Our safe and abundant food supply depends upon the continued existence and success of the U.S. farmer," Kelley notes. "Renewable fuels help in this regard. For example, nearly 1 billion bushels of corn will be used for ethanol in 2004. That helps generate farm profitability."

According to the U.S. Department of Agriculture, ethanol production adds 30 cents to the value of a bushel of corn. The Renewable Fuels Association notes that ethanol production adds $4.5 billion to U.S. farm income annually.

Kelley cites three primary reasons GROWMARK is supporting the distribution of renewable fuels:

- *It's the right thing to reduce dependence on foreign oil.* The U.S. has the products, technology and distribution systems to make America less dependent on foreign sources of oil, according to Kelley. "What's needed now is a federal energy policy that endorses renewable fuels as not only good for our environment, but as an added measure of homeland security," he adds.
- *It's the right thing for the environment.* Biodiesel is the only renewable fuel to have fully completed the health effects testing requirements of the Federal Clean Air Act. The use of biodiesel in a conventional diesel engine results in substantial reduction of unburned hydrocarbons, carbon monoxide and particulate matter when compared to emissions from diesel fuel. Ethanol-blended fuel substantially reduces carbon monoxide and volatile organic compound emissions. The corn-based substance is added to gasoline to meet oxygenate level requirements mandated by the 1990 Clean Air Act amendments and to raise octane level.
- *It's the right thing for the U.S. economy.* In the past 15 years, the ethanol industry has built nearly 75 plants. Plus, there are almost 100 new ethanol projects being discussed all over the United States, according to the National Corn Growers Association. "Investments being made in ethanol production translate into significant numbers of jobs in largely rural areas," Kelley notes. "This growing industry is literally helping to fuel our economy."

HOME GROWN FUELS

GROWMARK early biofuels proponent

GROWMARK was a pioneer in making ethanol-blended gasoline available to the public in the 1970s. Today, nearly 70 percent of all gasoline the cooperative and its members sell in Illinois, Iowa and Wisconsin contains an ethanol blend. Sales of ethanol-blended gasolines have increased from 4 million to 70 million gallons during the last 10 years.

"FS member cooperatives were the first in Illinois to offer biodiesel statewide, starting in 2002. Today, 40 percent of GROWMARK's diesel fuel sold throughout the Midwest contains soy-based biodiesel. Plus, it is available in many locations at our gas station operations, in addition to delivery to the farm," Kelley says.

The GROWMARK System's efforts to increase use of renewable fuels come under an umbrella called the "Home Grown Fuels" campaign. The central message is focused on energy independence. The campaign's launch in January 2002 coincided with the co-op's push to make soy-based biodiesel available throughout the Midwest.

"With the 'Home Grown Fuels' campaign, we wanted to introduce biodiesel and reemphasize our efforts in the development and testing of ethanol products," says Mike Lockart, GROWMARK marketing manager of alternative fuels.

"With biodiesel, our member cooperatives started hand-mixing and loading the product on trucks like it was done when ethanol was first introduced," Lockart says. "It shows the cooperation and determination of our sales force. Without them, it would not have worked. The logistics will remain challenging until we reach the sales volume that supports delivery and storage of mass quantities of biodiesel. But that will come faster than it did with ethanol, because of the lessons we learned through its introduction."

According to Lockart, who also serves on the National Biodiesel board, biodiesel is one of the most widely accepted renewable fuels in the United States. "You can pick up a paper in Phoenix, Albuquerque or Peoria and see stories about school districts or other companies using the product," he adds.

Extensive testing efforts underway

GROWMARK member Evergreen FS Inc., in Bloomington, Ill., recently conducted emissions tests on two of the city's mass transit buses using a 5 percent biodiesel blend. The buses were first tested while using No. 2 diesel fuel. Then, they ran on the biodiesel blend for two months. The Illinois Department of Transportation conducted an opacity test to measure the density of smoke coming from the exhaust of the buses. In one bus, a 10-percent reduction in particulates was found. The other bus had particulates reduced by 5 percent.

GROWMARK also tests and markets E-85, a blend of 85 percent ethanol and 15 percent unleaded gasoline in conjunction with the Illinois Corn Growers Association, Illinois Department of Commerce, National Corn Growers Association, National Ethanol Vehicle Coalition, Governor's Ethanol Coalition, Archer Daniels Midland (ADM), Aventine Renewable Energy Inc., Ford Motor Co., Chrysler Corporation and General Motors.

"We are a major supplier of E-85 in the U.S.," Lockart says. "For 10 years, we've marketed E-85. Recently, the U.S. Postal Service began phasing in E-85-compatible vehicles in locations that have created a sales spark."

The GROWMARK System sells E-85 to state and federal fleet operators in 12 states.

Another promising renewable fuel is E-diesel, a blend of 15 percent ethanol, 5 percent additive chemistry and 80 percent diesel fuel. GROWMARK, along with the Illinois Department of Commerce, ADM, Pure Energy, Illinois Corn Growers and the Chicago Transit Authority has tested E-diesel fuel.

About 40 percent of GROWMARK diesel fuel sold throughout the Midwest contains soy-based biodiesel. Photo courtesy GROWMARK

"We are trying to demonstrate the viability of an alternative to diesel fuel for the heavy- duty engine fleet," Lockart notes.

Testing to-date has included laboratory engine trials, a commercial trucking fleet, 15 Chicago Transit Authority buses and on-farm machinery trials. The final stage of testing has begun in different geographies in different climates during harvest and tillage operations. GROWMARK is blending and arranging delivery of the fuel to various sites. Emissions will be certified on various sizes of equipment and flammability will be tested. Findings will be submitted for final approval of the fuel, which should take approximately two years to complete.

Challenges of bringing renewable fuels to market

"The benefits of renewable fuels are many, but marketing the products can be a challenge," Lockart adds. "Turning points will be if and when Congress adopts a renewable fuel standard and if tax incentives are offered at the state and federal levels."

He remembers well the late 1970s and the process of gaining public acceptance for ethanol.

"We splash-blended one order at a time until distributors had enough demand to make it economically feasible to store ethanol blends in bulk," Lockart notes. "It wasn't until the early '90s that ethanol was available pre-blended at the rack for mass distribution. Farmer cooperatives like GROWMARK stood in the gap to get ethanol off the ground and to push for it to be in place at the retail pump. Today, a 10 percent blend is standard at gas stations.

Biodiesel is taking a similar, but accelerated path, according to Lockart.

"Developers of biodiesel learned from ethanol's history. They received approval earlier from equipment manufacturers, marketing efforts are better developed and coordinated and distributors are sitting up and taking notice of demand potential," he explains. "Farmers have stepped up to the plate to use biodiesel and that has helped acceptance to grow across the agricultural industry as well as transportation fleets.

"I'm looking forward to seeing how it takes off from here. The time is right. The product is right. And we can rally around biodiesel as an answer to some of the challenges facing our country, our co-ops, and our farmer-members." ■

Hard Lessons

Tri-State Ethanol struggling to overcome difficult start

By Stephen Thompson,
Assistant Editor

Setting up an ethanol plant is no automatic path to prosperity. Just ask the investors in Tri-State Ethanol, a limited liability corporation (LLC) founded by a farmers cooperative.

For the members of Tri-State Corn Processors Cooperative, founded in 1994 in Rosholt, S.D., an ethanol plant seemed to be an answer to the problems they faced as commodity producers: low prices, exposure to the whims of the market for an undifferentiated product with few buyers and many sellers, and no way to tap into the profits others derived from adding value to their crops.

Like Alice in Wonderland's Red Queen, many commodity producers face a situation in which they continually struggle just to keep in one place. Keeping abreast of a constant upward trend in productivity demands rising expenditures for operating inputs and equipment while also dealing with a constant downward pressure on prices. Producing a value-added product seemed to offer a way out of this conundrum, and ethanol was by far the most attractive and popular opportunity.

Outside expertise, resources needed

Tri-State soon found that starting up a profitable ethanol operation required expertise and a number of skills and resources that weren't readily available among its members. Foremost was access to capital. As a cooperative, Tri-State was prevented from selling voting shares to non-farmers — and, as with many farmer-owned ethanol ventures, the members could not raise sufficient funds among themselves.

The next step was to form a limited liability corporation (LLC) that could sell shares. But even then, they had no luck finding financing for their venture. "We tried to finance the project ourselves," says Steve Hesch, current manager of Tri-State Ethanol, "but our sources didn't come through." It soon became clear that they would have to seek outside help.

A second dilemma was obtaining the expertise to build the plant. With no experience or training in that arena, the stockholders would also have to rely on outside help to find designers, engineers and builders with the requisite skills.

Those problems seemed solved when they found a consultant who specialized in putting together ethanol projects. The consultant linked them up with a team consisting of a design firm, a "construction coordinator" and a construction company, that together promised a working plant at what seemed to be reasonable terms. He also found a group of investors from Omaha, Neb., willing to invest in the project. The consultant assembled a financing package that included low-interest loans from a local bank and developed an agreement that gave the builders partial ownership of the project. The cooperative itself wound up owning about a third of the business.

The ethanol distillery was designed to produce 14 million gallons per year. This is small for an ethanol operation, and in the best of circumstances would be more difficult to run profitably than a plant with a 40-million-gallon capacity, considered the size at which economies of scale are achieved. But as it turned out, small capacity was only part of the problem.

More research time needed

In retrospect, says Hesch, the co-op should have done more research and asked a lot more questions. But at the time, the package seemed to be just what they needed. Another factor pushed them to hurry the project: the need to get their ducks in a row before they ran out of time. They had permits and investors, but delays might cause them to lose either one. "Closing loans takes time," he says, and the co-op hadn't realized just how much time it would take.

While the loan-making process ground on, the necessary building permits threatened to expire, putting the low-interest loans in jeopardy. Construction work on the plant began in October 2000, before the loan was closed. A construction loan agreement for $9 million was only signed seven months later, on May 14, 2001; it took another three months before funds were released.

With the funding in place, the co-op's troubles were not over. Problems with construction resulted in cost and time overruns. And when the plant finally began operating, Tri-State had another unwelcome surprise: its ethanol distillery did not perform the way it was supposed to.

"If it were a car," says Hesch, "the fastest it would go would be 30 miles

per hour, and it would break down every hundred miles. The boilers were wrong, and the way the pipes were designed made sanitation very difficult." According to other sources, the plant was built around used machinery, and its design was wholly inadequate to produce ethanol at its nominal capacity.

Unable to operate the plant, Tri-State Ethanol was unable to generate cash flow to repay its debtors. "They told us orally that it would be a "turn-key" operation," Hesch says, "but we didn't actually get it in print." The contract had details about "exceptions and allowances," he says, that made it difficult to pursue action against the builders and consultants for non-performance.

The construction company and a subcontractor slapped mechanic's liens on the plant, and Tri-State Ethanol LLC was forced to declare bankruptcy. The ensuing legal disputes have been complicated by the fact that the construction company is a part-owner of the operation. It has been estimated that it will take an additional $1.7 to $3.4 million to make the plant fully functional, including materials and labor.

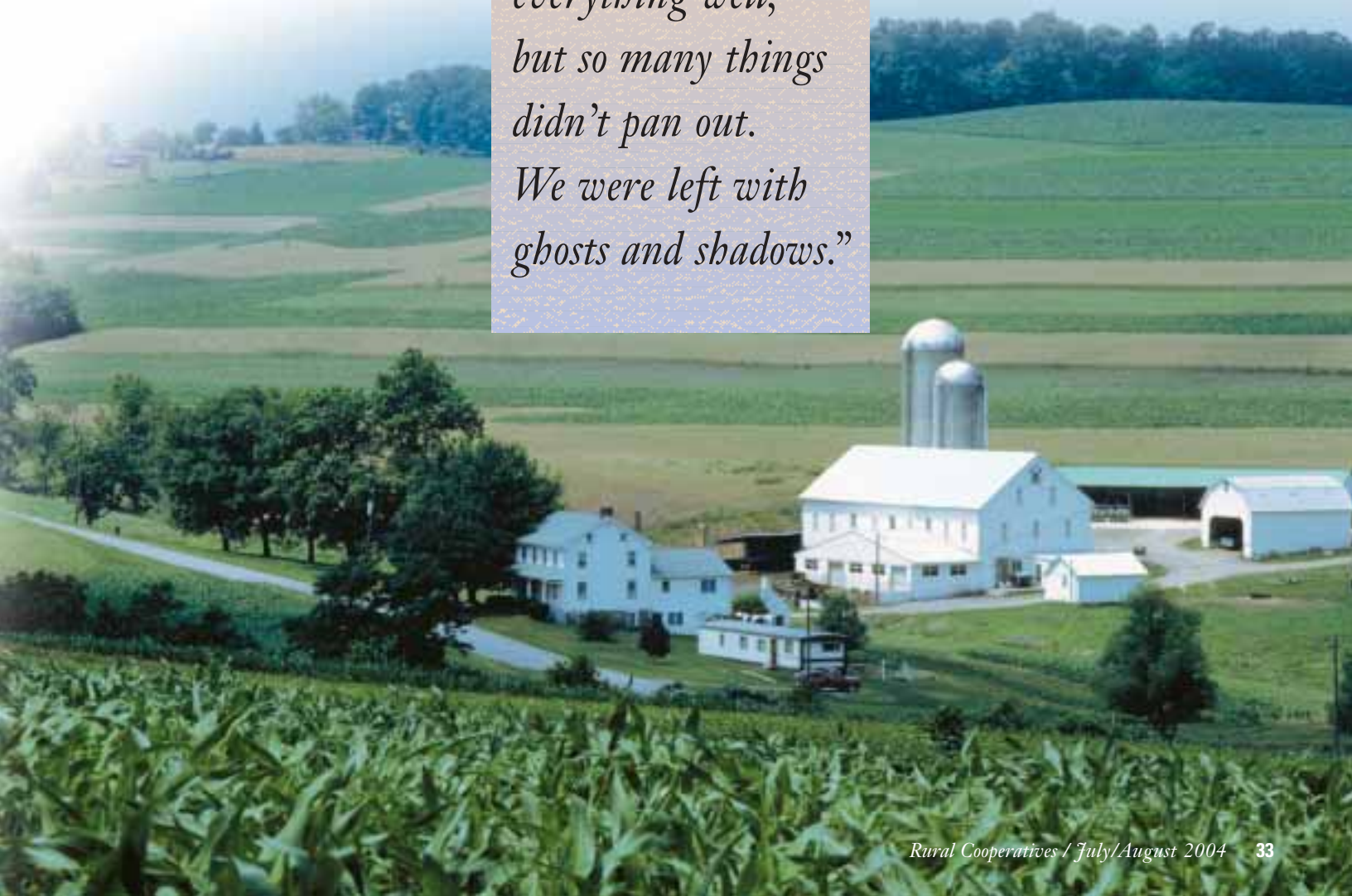
Backers still hoping for eventual success

Despite the venture's tribulations, Hesch is optimistic that Tri-State Ethanol will eventually be successful. The company has put together a Chapter 11 bankruptcy plan, approved unanimously by the shareholders, under which, he says, all necessary modifications will be made to get the plant up and running and all debts will eventually be satisfied.

Others are less sanguine about the operation's prospects, saying it will have to overcome its small size, a less-than-ideal location and lack of a good supply of natural gas.

In any case, the co-op members and others who helped finance the project have learned some very hard, expensive lessons. "We should have had more checks and balances," says Hesch. "We thought we had checked out everything well, but so many things didn't pan out. We were left with ghosts and shadows." Hesch believes that much of the trouble was caused by the time constraints stemming from financing problems. "If we'd had decent financing," he says, "things would have been different." ■

"We thought we had checked out everything well, but so many things didn't pan out. We were left with ghosts and shadows."



USDA grants support home-grown fuels

USDA Rural Development is helping to stimulate the rural economy by providing matching grants under its Value Added Producer Grant program (VAPG). Alternative energy projects — including farmer-owned ethanol and biodiesel plants — have been major beneficiaries, as the table on the following pages shows.

The VAPG Program was authorized by the Agriculture Risk Protection Act of 2000 and was amended by the 2002 Farm Bill. Grants may be used for planning activities and working capital for marketing value-added agricultural products and for farm-based renewable energy.

Eligible applicants are independent producers, farmer- and rancher-owned cooperatives, agricultural producer groups, and majority-controlled producer-based business ventures.

The maximum amount that can be awarded is $500,000, and all VAPG funds must be matched by an equal amount of funds from the applicant or a third party.

Applications for the 2004 program closed on July 30, 2004. But interested groups are encouraged to keep track of details for the next round of funding by periodically checking the VAPG Web site at: http://www.rurdev.usda.gov/rbs/coops/vadg.htm. About $13.2 million will be awarded in 2004.

For more information about the program, please contact your USDA Rural Development state office (contact information is included on the VAPG Web site, or by calling (202) 720-4323, then entering "1" at the voice prompt).

You may also contact the USDA Rural Development national office in Washington, D.C., through e-mail: cpgrants@usda.gov, or by phoning Marc Warman at (202) 690-1431, or Gail Thuner at (202) 690-2426. ■

VAPG grants awarded for alternative energy projects, 2001-2003

Recipient	State	Grant Amount	Project Type	Project Description
Minnesota Soybean Processors	MN	$500,000	biodiesel	Conduct feasibility studies evaluating soydiesel processing plant and oil refinery, as well as identity-preserved-grain processing.
South Dakota Soybean Processors	SD	$500,000	biodiesel	Study vertical integration of soybean meal, soybean hulls and crude soybean oil. Applicant intends to focus on soydiesel, refined vegetable oil, polyurethane products and protein-concentrate products.
Pacific Rim Ethanol LLC	WA	$500,000	ethanol	For construction of a 40-million-gallon-per-year fuel and industrial-grade ethanol and wheat gluten processing facility in central Washington.
Central Illinois Ag Coalition	IL	$60,000	ethanol	Conduct a feasibility study for a grain ethanol facility.
Midwest Grain Processors Cooperative	IA	$500,000	ethanol	Working capital for operation of an ethanol plant in Kossuth County, Iowa. The plant will use 16 million bushels of corn annually to produce 45 million gallons of denatured fuel-grade ethanol.

Recipient	State	Grant Amount	Project Type	Project Description
Siouxland Energy & Livestock Cooperative	IA	$500,000	ethanol	Working capital for ethanol plant expected to produce 14 million gallons of ethanol annually, as well as wet distillers grain, a high-energy animal feed.
Pine Lake Corn Processors	IA	$500,000	ethanol	Working capital for startup costs of ethanol plant. The plant is expected to produce 15 million gallons of ethanol annually, as well as distillers grain for animal feed and supplements.
Quad County Corn Processors Cooperative	IA	$500,000	ethanol	Working capital for the startup of an ethanol plant in west-central Iowa.
Hopkinsville Elevator Co., Inc.	KY	$500,000	ethanol	Applicant will grind 7.3 million bushels of corn and produce 20 million gallons of fuel-grade ethanol and 58,400 tons of distillers dry grains annually.
Dakota Corn Processors Cooperative	SD	$401,704	ethanol	Working capital for ethanol plant expected to purchase over 14 million bushels of corn and to produce 40 million gallons of ethanol annually.
Iowa Soybean Promotion Board	IA	$77,000	biodiesel	For feasibility study for using soybean oil as a base fuel to produce renewable energy.
Garden State Ethanol	NJ	$219,000	biodiesel	For feasibility study and developing a business plan for a farmer-owned biorefinery, greenhouse and aquaculture facility.
Power Plus Technologies	IA	$500,000	biodiesel	To assist in the startup of a biodiesel plant.
Mid-America Biofuels, LLC	MO	$450,000	biodiesel	To establish a producer-owned biodiesel plant in Missouri.
Karlon Farms, LLC	ID	$65,000	biomass	To complete feasibility study for using grain and grass straw for supplemental biomass fuel to generate electricity.
Merrill's Egg Farm	ID	$39,835	biomass	To study feasibility of converting poultry waste into energy and creating carbon byproducts.
Cinergy Services, Inc.	IN	$50,000	biomass	For feasibility study and business plan for biomass co-firing plant in Indiana.
Cook Swine Farm	MS	$65,429	biomass	To assess availability and feasibility of various bioenergy technologies for swine farmers.
K & G Farms	MS	$48,032	biomass	To help Mississippi poultry producers find uses for litter generated on farms.
Partners In Forestry	WI	$69,700	biomass	For a feasibility study to help identify raw-product supplies and niche markets for manufacturing, and to determine feasibility of biomass energy from wood residue to power small electric generating plants.
Charles Feenstra Dairy, LLC	AZ	$150,000	ethanol	For a feasibility study for an ethanol and distillers grain plant in Arizona that would benefit 144 livestock producers.
Olathe Patato Growers Cooperative Assoc.	CO	$41,300	ethanol	To evaluate viability of an ethanol plant and commercial feedlot operation in Western Colorado.
Golden Grain Energy LLC	IA	$74,000	ethanol	To study feasibility of entering the emerging ethanol market.
Iowa Renewable Fuels Association	IA	$48,500	ethanol	To support association's marketing of ethanol and co-products. Charter membership will consist of eleven farmer-owned ethanol plants either in production or under construction.

Recipient	State	Grant Amount	Project Type	Project Description
Treasure Valley Renewable Resources	ID	$450,000	ethanol	For help developing a 15-million-gallon-per-year, producer-owned ethanol plant.
Greencastle/Putnam County Development Center, Inc.	IN	$54,500	ethanol	To develop a business plan for establishing an ethanol plant.
Western Missouri Ethanol Trust	MO	$140,000	ethanol	Trust will use grant to develop a marketing strategy and business plan for a 30-million-gallon ethanol plant.
Dakota Renewable Fuels, LLC	ND	$167,500	ethanol	To complete business development of a 30-million-gallon, dry-mill ethanol plant.
Imperial Young Farmers and Ranchers	NE	$40,000	ethanol	For feasibility study for a biomass ethanol and electric facility that uses waste crops, such as corn stover and wheat straw.
Oklahoma Farmers Union Sustainable Energy L.L.C.	OK	$231,000	ethanol	To determine feasibility and financial sustainability of a New-Generation co-op that will help grain producers use hulled barley for the production of bioenergy products.
South Dakota Farmers Union	SD	$450,000	ethanol	To study feasibility of producing ethanol from corn and processed biowaste from the dairy industry.
Central Texas Ag Development	TX	$65,850	ethanol	Feasibility study for an ethanol facility.
Farmers Cooperative Elevator Association of Levelland	TX	$249,658	ethanol	To help grain elevator co-op construct ethanol plant.
Green Virginia Ethanol Project	VA	$211,650	ethanol	Feasibility study of ethanol production in a grain mill, or a cellulose hydrolysis facility, in Virginia.
Virginia Farm Bureau Federation	VA	$44,750	ethanol	To help establish an ethanol plant.
Western Wisconsin Renewable Energy Co-op	WI	$65,000	ethanol	For legal assistance related to the development of an ethanol plant with a capacity of up to 40 million gallons annually.
Little Souix Corn Processors	IA	$450,000	ethanol	A majority producer-owned business in Marcus, Iowa, will use grant as working capital for startup of a 40-million-gallon-per-year ethanol plant.
Big River Resources Cooperative (BRRC)	IA	$500,000	ethanol	For working capital for startup of a 40-million-gallon-per-year ethanol plant.
LincolnLand Agri-Energy	IL	$500,000	ethanol	To help operate a producer-owned, 40-million-gallon -per-year ethanol plant.
East Kansas Agri-Energy, LLC	KS	$450,000	ethanol	To help build and operate a 20-million-gallon-per-year ethanol plant.
Western Plains Energy, LLC	KS	$290,615	ethanol	To build and operate a 30-million-gallon-per-year ethanol plant near Oakley, Kan.
Last Mile Electric Cooperative	WA	$150,000	wind energy	To assess the feasibility of installing small-scale wind turbines on farms in the Pacific Northwest.
Harvest Land Cooperative	MN	$148,000	wind energy	To assist in the development of on-farm, wind-power energy.
West Bend Elevator	IA	$30,500	biodiesel	For development of a 5-million-gallon-per-year biodiesel production plant.
Union County Biodiesel Company	KY	$25,225	biodiesel	For a feasibility study and business plan for conversion of raw soybeans into soydiesel and soybean meal for animal feed.

Recipient	State	Grant Amount	Project Type	Project Description
Hallock Cooperative Elevator Company	MN	$50,000	biodiesel	For feasibility study and business plan for a biodiesel plant in northwest Minnesota.
Flick Seed Company	MO	$50,000	biodiesel	For processing waste biomass material into alternative fuel.
Columbia County Farm Bureau, Inc.	WA	$50,000	biodiesel	For feasibility study and business plan for growing and processing oilseeds for biodiesel.
Blue Sun Producers, Inc.	CO	$450,000	biodiesel	To help applicant increase membership base and to produce oilseeds for premium biodiesel.
Farmers Union Marketing & Processing Assoc.	MN	$500,000	biodiesel	For operation of a proposed, 2.8-million-gallon-per- year, continuous-flow biodiesel plant that will use animal fats and vegetable oils from livestock rendering operation.
United Wisconsin Grain Producers, LLC	WI	$450,000	biodiesel	For feasibility study and business plan to assess the economic potential of growing and processing oilseeds for biodiesel.
Creative Horizons Producers	IA	$50,000	ethanol	For expansion of existing ethanol facility and development of a biodiesel plant.
Putnam Bio-Products, LLC	IN	$25,250	ethanol	To plan a bio-refinery to produce ethanol and other co-products.
Ethanol Grain Processors, Inc.	KS	$17,500	ethanol	To update a feasibility study and develop a business plan for a proposed 30-million-gallon-per-year ethanol plant in Washington County.
Agriculture Marketing Institute, Inc.	KY	$79,900	ethanol	For feasibility study and business plan for converting an existing chemical plant into an ethanol facility.
Barton County Ethanol Production Steering Committee	MO	$47,500	ethanol	For establishing an ethanol plant that will use feedstock produced in the area.
C_oO2 Ventures, LLC	NE	$128,000	ethanol	To develop business applications for use of C_oO2 generated from bioenergy processing facilities.
NEDAK Ethanol	NE	$38,500	ethanol	Feasibility study and business plan for ethanol plant.
East Central Ag Products, Inc.	MO	$500,000	ethanol	Working capital for a 20-million-gallon ethanol plant.
Husker Ag, LLC	NE	$226,850	ethanol	For costs associated with 20-million-gallon-per-year ethanol plant.
KAAPA Ethanol, LLC	NE	$240,000	ethanol	For working capital and to pay for production inputs for a 40-million-gallon, dry-mill ethanol plant in Minden, Neb.
Agricultural Producers' Green Attributes Maximization Steering Committee	VT	$101,920	other energy	To study potential for sale of renewable-energy "green tags" and greenhouse gas emissions reduction credits, independent of the sale of energy/electricity produced by a renewable energy project.
Floyd County Wind	IA	$7,312	wind energy	To study potential of generating electricity with wind-power in Floyd County, Iowa.
Farm Energy, LLC	IA	$7,500	wind energy	For feasibility study and business plan for a small-scale, producer-owned wind farm in northwest Iowa.

Compensating co-op directors

USDA study reveals wide range of pay plans

By Bruce J. Reynolds, Economist
USDA Rural Development
bruce.reynolds@usda.gov

Editor's note: This article is the third in a three-part series on selecting and compensating cooperative directors. The first article was published in the Nov.-Dec. 2003 issue, and the second part in the March-April 2004 issue. These and other past issues can be accessed online at: www.rurdev.usda.gov/rbs/pub/openmag.htm.

Service on the board of directors of cooperatives involves a significant commitment of time and mental energy. Some members who would make excellent directors may not seek election to the board because of these demands. Financial recompense may offset the reluctance of some members to serve as directors.

Cooperatives of a similar type, business volume and geographic location tend to adopt similar policies as to method and amount of compensation for directors. A recent survey identifies differences in the amounts and terms under which director compensation is paid. The survey identified three general types of financial compensation: (1) per-meeting payment or per diem, (2) annual stipend or retainer, and (3) reimbursement of travel expenses. There were 419 responses to financial compensation questions. Farm supply (205) and grain (173) cooperatives were the predominant types of cooperatives that shared compensation information. Several large, high-value marketing cooperatives also shared this information.

Only two of the surveyed cooperatives indicated that no compensation is paid to directors. Travel expense is often negligible for directors of local cooperatives. Reimbursement is available in 247 out of 419 survey cooperatives. Twenty-five cooperatives cover travel expenses but do not pay any additional compensation. Survey results for per-meeting and stipend compensation, but not travel reimbursement policies, are summarized below.

A stipend recognizes service beyond board meetings, such as a director's role in helping maintain a co-op's positive relations with members and the public.

Compensation amounts are influenced by a cooperative's volume of sales. Responses are in three sales volume intervals: $2 million to $26 million; $27 million to $89 million; $90 million to $8 billion and for all respondents. The mode (the most frequently occurring number), median and range of compensation amounts, as well as the number of cooperatives in each sales-volume interval are summarized. The 27 cooperatives without per-meeting or stipend compensation are excluded from the calculations of the summary statistics.

Policies for directors and members are established with an eye toward fairness and comparability with general practices of other cooperatives. For this reason, the mode — which measures the most frequent or common value — is an especially relevant summary statistic. Furthermore, the "mode count," or number of observations represented by the mode, shows the relative predominance of certain compensation amounts. There are a few cases of ties for the mode (bimodal values), and several commonly used compensation values are almost as frequent as the mode. In fact, compensation data are multi-modal in the sense that there are different strings of identical per-meeting rates or stipend amounts which cooperatives adopt. This multi-modal distribution of compensation is displayed in stem-and-leaf plots in an on-line report at the NCR-194 Web site (http://www.agecon.ksu.edu/accc/ncr194/).

Per-meeting compensation

A per-meeting payment applies for each day of a meeting's duration. Most co-ops reported that their board meetings usually do not extend beyond one day. Many cooperatives have variations in the payment amount for half day or for evening meetings. A few cooperatives mentioned that this payment was only for meetings attended and was

Table 1: Per-meeting compensation for directors, reported for cooperatives in sales ranges and in total, 2003

Sales range* ($ million)	Co-ops (No.)	Mode ($)	Mode count (No.)	Median ($)	Range ($)
2-26	145	100	31	75	4 – 400
27-89	113	100	26	80	20 – 300
90-8,000	42	**	**	150	10 – 700
Total	300	100	63	75	4 – 700

* Total sales in 2001 as reported by cooperatives in the RBS annual survey.

** A two-way tie for the mode between $100 and $200 with each having 6 responses.

therefore not automatic. Cooperatives often have monthly board meetings, but several have more than twelve meetings per year, and for many co-ops the number of meetings varies from year-to-year. Therefore, annual compensation is variable for cooperatives with a per-meeting payment policy.

The mode per-meeting rate is $100 in the three sales groups. There is a tie at $200 for the mode in the larges sales class (Table 1). A double asterisk (**) indicates bimodal values, reported in a footnote to the table. Also note that these per-meeting rate summaries do not include higher amounts that are often paid to officers of the board.

The median is $75, as compared to the mode of $100, which suggests that per-meeting rates less than the mode are also popular. In fact, 45 cooperatives paid $50 and 42 paid $75 per-meeting, as compared to 63 paying $100. Per-meeting compensation is generally higher for directors of the 42 cooperatives in the sales range $90 million to $8 billion, as indicated by its median of $150.

Stipend

The term "stipend" describes fixed annual payments as a method of compensation. Although stipends are often paid-out monthly, the amount does not change when greater or fewer meetings are held in any given year. This method recognizes the fact that board meetings are not the only occasions for a director's work.

Director compensation with a stipend or fixed annual payment is less frequent than per- meeting payments, with only 69 cooperatives reporting this method for non-officers of the board (Table 2). Several cooperatives pay these annual stipends to their directors monthly and others make a single payment. A stipend recognizes service beyond board meetings, such as a director's role in helping to maintain a cooperative's positive relations with members and the public.

The stipend mode value is $1,200, which is paid by 17 of the responding cooperatives. The median stipend is $900. Stipends of less than $1,000 are paid to directors by 37 out of the 69 cooperatives having a fixed annual compensation. Note that a $1,200 stipend is equivalent to the annual compensation of cooperatives with a per-meeting rate of $100 and monthly board meetings. However, several cooperatives with a per-meeting method only pay for meetings attended, whereas those cooperatives with an annual stipend, even if disbursed on a monthly basis, pay their directors regardless of meeting attendance.

Compensation for board officers

Compensation is often higher for officers of the board. Furthermore, eight cooperatives provide compensation only to board officers. The 300 cooperatives with a per-meeting payment include 52 that also pay stipends to board officers. For the 248 cooperatives that exclusively compensate with a per-meeting payment, 79 have a higher per-meeting rate for the board chair than for other directors. The median for the board chair is $100, which compares to $75 per-meeting paid to non-officers of the board (Table 1).

Table 2: Annual stipend for directors, reported for cooperatives in sales ranges and in total, 2003

Sales range* ($ million)	Co-ops (No.)	Mode ($)	Mode count (No.)	Median ($)	Range ($)
2 - 26	40	1,200	7	735	150 – 6,000
27 - 89	20	1,200	8	1,200	360 – 5,300
90 -1,880	9	**	**	1,200	480 – 25,000
Total	69	1,200	17	900	150 – 25,000

* Total sales in 2001 as reported by cooperatives in the RBS annual survey.

** A two-way tie of 2 responses for $600 and for $1,200.

Eighty responding cooperatives pay stipends to board chairs, which include 11 cases where they are not paid to non-officer directors. In another 36 cases, chair stipends are higher than the amounts paid to non-officer directors. The median stipend for the board chair is $1,000, compared to $900 for non-officer directors.

Board secretaries are paid higher per-meeting rates than non-officer directors in 52 cases, with a median of $95 as compared to $75. In addition, board secretaries receive per-meeting payments in 10 cases when either no

such payments are made, or stipends are paid, to non-officer directors. In fact, eight of those 10 have a per-meeting payment exclusively for the board secretary.

Stipends for board secretaries are higher than for non-officer directors in 28 cases. In addition, there are eight cases where stipends are paid to board secretaries but not to non-officer directors. The median secretary stipend is $930, compared to $900 for non-officer directors.

Combined compensation policy

Combined or mixed compensation, i.e., paying both a per-meeting amount and a stipend, was reported by only 15 cooperatives for all members of the board, while 88 cooperatives apply this policy exclusively to officers. These variations for officers primarily apply to the board chair and secretary. Results for cooperatives with a mixed compensation policy are summarized in a more detailed report, available on the NCR-194 web page.

A combined compensation policy is more exacting than necessary for many cooperatives. Nevertheless, an examination of the 88 cooperatives with a combined policy for officers reveals the different economic purposes of per-meeting payments vs. stipends that are less evident when a single method of compensation is used.

When cooperatives provide higher compensation for officers, the chair is usually the highest compensated position on the board. Yet, cooperatives with a combined policy more often use a stipend to pay higher compensation to the board chair than a higher per-meeting payment. In contrast, a higher per-meeting rate is more frequently used to increase the compensation for board secretaries. This difference may reflect the fact that the added burden of secretary work involves board meetings, whereas the chair not only has more work in running the meetings, but may also be involved in a lot of member relations and public affairs work. These kinds of services are often difficult to track in terms of time spent, so are more accurately compensated with a stipend than a per-meeting rate.

Compensating non-member directors

Farmer cooperatives usually have members exclusively as their directors, as indicated by the survey results showing only 18 out of 437 with non-members on the board. Three of these 18 cooperatives were incorporated in Virginia, where state statutes require farmer cooperatives — under certain conditions — to appoint a public director. As discussed in the second article of this series, several cooperatives were considering revisions in their bylaws to allow appointment, if not election, of a non-member to the board. If cooperatives increasingly decide to place non-members on their boards, especially if such non-members are professionals or business leaders, the issue of paying higher compensation will arise more often.

If co-ops continue to place more non-members on their boards, the issue of paying higher compensation will arise more often.

Only two of the responding cooperatives with non-members on their boards reported compensation above what is paid to member directors. These cooperatives compete in high-value commodity industries and their non-member directors are selected for the purpose of providing business expertise that would unlikely be available from a board that included only members. Each cooperative faces its own set of challenges, and director selection and compensation policies must take such individual circumstances into account.

Although it is not unusual for many privately owned and publicly traded companies to have the flexibility to compensate directors differently, especially high-profile public figures, cooperatives operate with more constraining business objectives. In cooperatives, the emphasis on fair and equitable treatment gives some salience to the idea of compensating member and non-member board members the same.

Board excellence

Policies for selecting, electing and financially compensating cooperative directors are the topics of this three-part series of articles. These topics all relate to the goal in cooperative governance of getting the best directors possible to serve on the board.

The payments to directors — whether per-meeting, stipends or a combination — are intended to be a financial compensation for the extra time and effort they give to their cooperatives. In many non-cooperative businesses, directors often seem to receive excessive compensation, as frequently reported in the news media. For cooperatives, the challenge is far more to ensure that director payments are adequate, rather than one of keeping compensation in-check.

Some survey respondents commented that even though they have policies for director candidate selection and encourage competition for board elections, a large proportion of members are unwilling to consider serving on the board. Such member reluctance raises a question about the adequacy of director compensation.

The challenges of electing the best directors possible involve diligence in reviewing and updating governance policies, attending conferences to discuss best practices and participating in surveys that provide an opportunity for the cooperative community to share information. ■

NEWSLINE

Compiled by Dan Campbell

Send items to: dan.campbell@USDA.gov

Swiss Valley Farms has given a "facelift" to a number of its products, including this line of fruit drinks, to "create more eye appeal for kids." The Davenport, Iowa, co-op has also introduced a new flavor, blue raspberry, to capitalize on the popularity of blue drinks among youth. It has also launched a new, more convenient size and packaging for its string cheese. Photo courtesy Swiss Valley

Darneille new PCCA CEO

Wallace L. Darneille, with 30 years in the cotton industry, has been named as president-elect and CEO of Plains Cotton Cooperative in Lubbock, Texas. Darneille succeeds Van May, who will step down on Sept. 1. "We are excited to have someone with Wally's depth of experience in cotton," says PCCA Chairman Eddie Smith. "His background is a very good fit for this organization." Darneille spent much of his career with Weil Brothers Cotton and is a former president of the Texas Cotton Association. He has a bachelor's degree from Dartmouth College and a MBA from Auburn University.

Wallace L. Darneille

May has been president and CEO since 1992, and Smith credited him for helping the co-op "achieve unprecedented success." During May's years at the helm, PCCA earned total net margins of $236 million and $293 million was paid to members in annual dividends, stock retirements and mill option capital retains. Smith also praised May for his efforts to modernize the co-op textile mills, which made big gains in production capacity and efficiency during his tenure while the diversity and quality of denim was improved.

Repayment demanded from Farmland bondholders

It was a "run on the bank," created by bondholders demanding payment from the co-op, that precipitated Farmland Industries' bankruptcy filing in 2002. But now, in a final bitter irony to the demise of what had been the nation's largest farmer-owned co-op, those bondholders may have to give much of that money back.

The trust in charge of liquidating the co-op's assets is demanding repayment from any bondholders paid within 90 days preceding the bankruptcy filing. Farmland had about 20,000 bondholders, many of them small, individual investors. Because Farmland was technically insolvent when it made the payments to bondholders, they are entitled to only the same portion of payment from the estate as other creditors.

An article in the *Omaha World-Herald* cites the example of one bondholder — a retiree who was paid $10,000 for his bond before the co-op filed for bankruptcy — who has received legal notice demanding repayment of the entire amount plus $220 in interest. It also reports that FI Liquidating Trust is giving some bondholders the option of repaying a smaller percentage of their bond value if they forgo any future claims against the estate. One attorney representing a group of the bondholders said most are being asked to repay $15,000 to $35,000, but some owe as much as $400,000.

Tuscarora Organic Co-op expands

Tuscarora Organic Growers Cooperative has opened a new, 3,600-square-foot addition to its warehouse. Since forming in 1988, the co-op's output has increased 30-fold. So, the Huntingdon County, Pa., co-op decided to invest $180,000 for the badly needed warehouse expansion, as well as for new coolers and information technology upgrades. Funding included a $65,000 loan from the Progress Fund, which in turn received $750,000 under the USDA Rural Development Intermediary Relending Program. The state Small Business First Loan Program also provided $75,000 for the project, while growers invested $40,000. The bulk of the co-op's products are shipped to specialty stores and restaurants around Washington, D.C., while others go to farmers markets and roadside stands that appeal to tourists in southern Pennsylvania.

Turkey growers form co-op to pursue plant purchase

By an overwhelming vote of 144-7, turkey growers in Virginia and West Virginia have opted to from a co-op to pursue possible purchase the Pilgrim's Pride poultry processing plant in Hinton, Va., which they currently sup-

ply. The plant, which processes 8 million birds for the fresh market annually, has announced plans to close on Oct. 1 if a buyer isn't found. The plant employs 1,300 and has contracts with 169 farmers. The *Washington Times* cites data showing that a plant closure would cost the area up to $225 million in economic activity annually. Pilgrim's Pride, based in Pittsburg, Texas, is reportedly closing the plant to concentrate more on ready-to-eat deli meats and "heat-and-eat" products.

Gold Kist eyes possible conversion

Gold Kist Inc.'s board has approved a proposal to convert Gold Kist into an investor-owned corporation. The members of the co-op will be required to approve the conversion. The co-op anticipates holding a member election on the conversion in the second half of August. But the precise dates of the next set of grower meetings and the voting period will depend on the Security Exchange Commission's review of the Gold Kist filings.

If approved, Atlanta-based Gold Kist would complete the conversion by merging into a new corporation, Gold Kist Holdings Inc. An initial offering of 18 million shares of common stock is being eyed. The proceeds of the stock sale would provide payments to members, and would repay more than $70 million in senior debt and for general purposes.

Gold Kist is the third largest integrated broiler company in the United States, accounting for more than 9 percent of the nation's chicken broiler meat. Gold Kist's broiler production operations include nine broiler complexes located in Alabama, Florida, Georgia, North Carolina and South Carolina. It employs approximately 16,000 people and contracts with about 2,300 family farmers who produce 14 million chickens per week. Its products are sold both under the Gold Kist Farms brand name and under supermarket private labels.

For the nine months ending March 27, the company reported net margins of $56.7 million, compared to a net loss of $66 million for the same period last year. Sales for the same period were $1.62 billion, compared to $1.36 billion for the first nine months of 2003.

Organic Valley sponsors "swim for clean water"

The first-ever swim of the entire length of the Hudson River is being sponsored by Organic Valley Family of Farms, America's leading organic farmers' cooperative, as part of its ongoing effort to heighten awareness of the link between clean water and organic agriculture. Christopher Swain, 36, an award-winning advocate for clean water, was to swim 315 miles down the river through class IV rapids, raw sewage and pesticides before stroking past Manhattan, around the Statue of Liberty and out into the Atlantic Ocean in late July.

Organic Valley is sponsoring Christopher Swain's Hudson River swim to call attention to the need for clean water. Here, Swain on an earlier swim on the Columbia River. Photo courtesy Organic Valley

School visits, on-line teaching tools for K-12 educators (at www.swimforcleanwater.org), a visit to the New York State Legislature in Albany, community clean-ups and farm visits are all part of the intensive educational program supporting the swim. "Since the Clean Water Act passed in 1972, the Hudson has come a long way," says Swain. "But if we ever want to see the Hudson become a pristine stream, everyone in the watershed will need to make a few river-friendly choices each day."

Organized in 1988, Organic Valley cooperative achieved record success in 2003 both in sales (up 25 percent to $156 million) and in farmer recruitment (up 23 percent to 633 farmers). Co-op members now farm 95,000 acres and milk 20,500 cows. Organic Valley brand milk is now the top-selling organic milk in both mainstream supermarkets and natural foods outlets along the Eastern seaboard.

Iowa Premium Pork to operate in Le Mars

The Iowa Premium Pork cooperative is leasing a vacant packing plant in Le Mars, Iowa, where it will process value-added pork products. The co-op will contract through Sioux-Preme Packing Co. in Sioux Center, Iowa, to slaughter its hogs, from where the carcasses will be shipped to Le Mars for further processing. The plant is expected to employ about 50 workers. Producer meetings were slated in June to solicit an additional $400,000 in equity investments. About $2.1 million has already been invested by 102 producers. The plant will be operated by Majestic Food Group, a wholly owned subsidiary of the co-op, which has a two-year lease on the plant with an option to buy it at the end of that period.

ACDI/VOCA names Baker interim president

Christopher Baker has been named interim president and CEO of ACDI/VOCA, which promotes international cooperative and economic development. Baker, a 25-year veteran of international economic development work, grew up in Cuba and spent seven years as CEO of the World Council of Credit Unions, during which time he is credited for helping the organization to improve cost efficiencies and rebuilding its financial reserves. He has also chaired the overseas Cooperative Development

Council and the Committee for the Promotion and Advancement of Cooperatives. Baker will serve for a three-month term, which can be renewed for an additional three months while ACDI/VOCA seeks to define its future direction.

New Sacramento nonprofit to promote cooperatives

Synergetic Enterprise Development Group (SEDG) is a new, nonprofit organization formed to promote cooperatives as a way to meet a broad array of future needs in California. The Sacramento-based business will work as a catalyst for co-op projects. "Our goal is to focus the resources available to us to create new cooperative solutions," says Lee Ruth, SEDG president. "We intend to strengthen relationships between existing cooperatives, aid in the creation of new models and new legal forms of cooperatives and strengthen the working bonds between cooperative professionals."

The SEDG board has already approved two projects, including development of a "California Snacks" student cooperative, which it is hoped will serve as a prototype for use on school campuses statewide. It will kick off Aug. 20 during the California State Fair. Fairgoers will be able to purchase California-grown fresh foods, nuts, dairy products, vegetables and juices while students will gain valuable experiences in learning how to operate a similar business enterprise on their own campuses.

The second project will be the creation of a business plan for an agricultural biomass bargaining cooperative, allowing farmers to profit from the transformation of farm waste products into a supply of electricity. "While these first two projects are based in agriculture, the intent of our diverse board is to promote cooperatives as solutions in all sectors of California society," Ruth says. Other SEDG officers include: Vice President Alan Zepp, Northern California Power Agency; Secretary Kim Coontz, Yolo Mutual Housing Association; Treasurer Casey Garten, CoBank; and Legal Counsel Dan Best, Certified Farmers Markets of Sacramento. For more information, phone (916) 457-6529.

Farmland's share of feed, agronomy ventures sold

Land O'Lakes Inc. has signed an agreement to purchase all of Farmland Inc.'s ownership interest in Land O'Lakes/Farmland Feed LLC. Under the proposed agreement, LO'L would pay just over $12 million to acquire Farmland's 8 percent interest, giving it 100 percent of the animal-feed joint venture formed in 2000. The sale is contingent upon bankruptcy court approval in the Farmland case.

Meanwhile, CHS Inc. has completed the purchase of Farmland Industries' ownership share of Agriliance LLC, a leading supplier of agronomic inputs in North America. The purchase was approved April 20 by the U.S. District Court overseeing Farmland's bankruptcy. CHS now owns 50 percent of the economic and governance interests of Agriliance, with the remaining 50 percent owned by Land O'Lakes. CHS purchased Wilbur Ellis Co.'s interest in Agriliance in May 2003. Agriliance is a major supplier of crop production inputs and provider of agronomic training for dealers across North America. It reported sales of $3.5 billion in 2003.

AMPI to close Glencoe plant

Shrinking Midwest milk volume has led Associated Milk Producers Inc. (AMPI) to close its Glencoe plant, effective June 19. "Though AMPI market share has grown, Midwest milk volume continues to shrink," AMPI General Manager Mark Furth says. "AMPI will redirect the Glencoe milk to maximize the efficiency of its other plants. This will benefit all AMPI members, including those shipping to the Glencoe plant."

AMPI acquired the Glencoe facility through a merger with the Glencoe Butter and Produce Association in 1999. Although AMPI upgraded the cheese and whey processing equipment, Furth said the plant remains small by industry standards. The Glencoe facility is one of 13 AMPI plants, of which five are located in Minnesota. AMPI is working with the 30 employees of the Glencoe facility to find new employment, including positions in other AMPI manufacturing plants. Member services such as milk testing and hauling will not be affected.

AMPI has 5,000 members who annually market more than 5 billion pounds of milk. Members represent dairy operations located throughout Wisconsin, Minnesota, Iowa, Nebraska, Missouri, South Dakota and North Dakota.

Decatur to lead FCL

CoBank has announced the appointment of Steven Decatur as the new president of Farm Credit Leasing Services Corporation (FCL), which provides leasing services to agricultural cooperatives, producers and communications and energy companies nationwide. "Through Steve Decatur's experience in leasing and commercial banking, as well has his proven leadership skills, we believe FCL will further enhance operations, offerings and ongoing customer relationships," says CoBank CEO Doug Sims. Decatur brings with him nearly 30 years of experience in leasing, lending and financial services, and has successfully led initiatives to improve new business prospects and profitability. Prior to joining CoBank/FCL, he was president of Marshall Bank in Minneapolis and CEO of Marquette Equipment Finance, a leasing company in Wayzata, Minn.

Steven Decatur

Select Sires adds dairy breeds to product line

Jersey and Brown Swiss genetics are popular crossbreeding choices among some dairy producers, but other breeders are looking for specific traits not found in those breeds. To accommodate this, Select Sires has added three new dairy breeds to its lineup, which include Montbeliarde from France, Norwegian Red from Norway and Swedish Red from Sweden. Select Sires is working in cooperation with Creative Genetics of California Inc. to make the new offerings.

"While crossbreeding is not for everyone, some producers are trying it as a way to take advantage of the strengths from several different breeds," says Chuck Sattler, Select Sires vice president for genetic programs. "In theory, crossbreeding can provide a boost to profitability if producers can identify several breeds that meet their requirements and then utilize them as part of a planned and organized breeding program." Based in Plain City, Ohio, Select Sires Inc. is a federation of 10 farmer-owned and -controlled cooperatives.

USDA launches renewable energy pilot project

Agriculture Secretary Ann M. Veneman has announced a new guaranteed loan pilot project aimed at developing renewable energy systems from the use of livestock as a raw material. "This program will provide guaranteed loans for rural small businesses to develop the means to effectively destroy these specified risk materials from cattle while providing a bio-based source of energy," Veneman said.

In January, USDA expanded the list of specified risk materials prohibited in the food supply as an additional firewall to prevent bovine spongiform encephalopathy (BSE). In addition, the U.S. Food and Drug Administration announced that it intends to prohibit specified risk materials in food regulation by the agency.

The maximum amount of total loan guarantees under the pilot program will be $50 million. USDA anticipates up to three awards will be made.

There is no dollar restriction associated with any one award, within the budget allotment. The amount of the loan guarantee cannot exceed 50 percent of the total project cost. Applicants must submit their application and one copy to the USDA Rural Development state office where the proposed project is located, or where the borrower is headquartered. The notice of funding availability appeared in the May 18 *Federal Register*. All applications must be received by August 16.

To contact to your USDA Rural Development state office for more information, call (202) 720-4323 and enter "1," or visit the Web site: www.rurdev.usda.gov.

Home health care co-ops get $1 million USDA boost

Agriculture Secretary Ann M. Veneman has announced the selection of nine recipients to receive a total of $1 million in rural development community development initiative grant funds to support the establishment and operation of home health care cooperatives. "The development of rural home-based health care cooperatives provides a cost-effective means of providing elderly and low-income families an alternative to health care services available to them," says Veneman. "Through partnerships, the Bush administration is working to improve the quality of life for rural residents."

Pre-development grants will assist qualified public bodies or nonprofit community development organizations in providing outreach to home-based health care providers, assessing local-level human service provider needs and other activities leading to the organization and implementation of successful home-based health care cooperatives. Revolving fund grants are made to qualified, nonprofit community development organizations or public bodies to provide start-up and operating funds and technical assistance to the newly created, home-based health care cooperatives. Recipients are required to obtain matching funds, doubling the value of the USDA grants. Eligible applicants must be located in rural areas with populations of 50,000 or less. Funding of selected applicants will be contingent upon meeting the conditions of the grant agreement.

For more information, including a list of all grant recipients, visit: http://www.usda.gov/Newsroom/0196.04.html.

Innovative practices focus of Missouri co-op conference

Many cooperatives are at the forefront of agribusiness innovation as they strive to find new ways to remain competitive while still continuing to meet the needs of their members. Cooperatives are, for example, leaders in the renewable energy sector where they are helping farmers capture the full rewards of new market opportunities. Recent changes in state laws allow unprecedented prospects for the evolution of the cooperative model. These efforts will be the focus of the seventh annual Farmer Cooperatives Confe-rence, Nov. 1-2 in Kansas City, Mo.

Cooperative Innovation is the title of the event, to be held at the Fairmont of Kansas City at the Plaza. It will feature cooperative leaders who have successfully initiated novel business approaches within their organizations or helped start new ventures. More than 150 cooperative board members, managers and cooperative scholars are expected to attend. The conference is sponsored by the University of Wisconsin Center for Cooperatives, which established the conference in 1998 with the objective of providing co-op directors, managers, government and academia with information on major trends and issues impacting agricultural cooperatives. For more information, visit the conference website: http://www.wisc.edu/uwcc/farmercoops04/index.html, or e-mail Ashwini Rao at:

rao@aae.wisc.edu, or call her at (608) 262-3382.

Rural credit program achieves mission in Russia

ACDI/VOCA's Mobilizing Agricultural Credit (MAC) program ended in June after six years of success that some doubted was possible. The project's legacy is the Rural Credit Cooperation Development Fund and 47 accredited rural credit cooperatives which, together, are the backbone of a robust private rural credit system that has already disbursed $24 million in loans.

ACDI/VOCA representative Fred Smith came up with the idea, and spent two years working with USDA and USAID to secure initial funding. While there were many skeptics, ACDI/VOCA demonstrated that lending to Russian farmers could be profitable and that farmers would borrow and repay at market interest rates. ACDI/VOCA subsequently received four cost extensions from USAID to expand the project. There are now more than 570 rural credit cooperatives (RCC) serving 50,000 members in Russia. Of these RCCs, 205 are members of the Union of Rural Credit Cooperatives. Since 1998, the number of RCCs has increased 12 times and membership by 50 times.

Co-op Month activity to focus on contributions to communities

Cooperatives nationwide will highlight economic and charitable contributions to their communities under plans for the annual observance of National Co-op Month in October. Using the theme "Cooperatives: Owned by Our Members, Committed to Our Communities," the National Cooperative Month Planning Committee will encourage local co-ops to stress community involvement, employment and other identifiable community contributions in their celebrations and observances for the month, observed annually since 1930.

The co-op month committee will develop materials to help co-ops at the local level promote their community and member commitments. An electronic toolkit of materials should be available by early August — including an updated logo, advertisements, fact sheets, draft news releases and letters — on the Web site: www.co-opmonth.coop. ■

Community investments helped launch plant *continued from page 21*

improve their future designs."

With the plant in operation, the original goal of the co-op seems to have been fulfilled: the comparative local price for corn has risen significantly. And while some ethanol operations may be experiencing difficulties because of the general rise in grain prices over the past year, Glacial Lakes Ethanol has benefited from futures positions it took earlier.

In any case, member farmers sell their corn to the plant even when they can get a couple of cents more per bushel elsewhere. "I didn't think it would happen," says Branhan, "but people around here feel like they have real ownership of this operation."

It's that local ownership that has made the difference for Glacial Lakes. ■

Amazing Grains! *continued from page 9*

growth of the business so that there was adequate commodity product to meet processed-flour demand. The cooperative must ultimately produce its own commodity and at a stable price. There is no guaranteed backup market supply.

Warren and the board understand the need to balance its supply with market demands. In its attempt to increase membership and commodity supplies, if too much money is paid up front to the producers for millable seed, then the price for finished Montina™ value-added products may exceed what the market will bear.

Since the board sets the price for delivery rights for Amazing Grains members, continuous dialogue and market evaluation are vital. The co-op continuously monitors and evaluates changes in markets.

VAPG funds bolster co-op marketing efforts

VAPG money was used for an advertising program to develop a close relationship with customers suffering from Celiac. Warren has asked what they look for in products and how the co-op can gain their confidence in Montina™ products. New product ideas have come from these talks.

The VAPG has supported marketing trips to Celiac conferences to learn more about people afflicted with the condition and to familiarize these people with Amazing Grains. Amazing Grains will ensure that there will be no question of whether its products are truly "gluten-free." The standard it uses for gluten testing is 10 times more stringent than the FDA standard.

The co-op is assessing how to grow and in what direction. It has come a long way from the initial exposure to academic and scientific research and it has taken many committed public and private partners to make this business what it is today. USDA's Value-Added Producer Grant was the right tool at the right time for this business. It provided a resource to fill in gaps existing in the business development process. ■

In other cases, growers increased their production with the idea that they each had to sell a larger quantity at the lower price to make the same profit. This domestic overproduction, however, made it harder to conclude that imports contributed importantly to the price decline.

Price declines caused by imports, or overproduction?

TAA petitioners have also been confronted with the challenge of establishing that their prices were declining from imports of similar or directly competitive products. When imports consist of a processed product, the petitioner is required to show how it significantly contributed to the decline in the price of the raw commodity produced by the petitioner. In some cases this has been hard to demonstrate, especially when the raw commodity is used in multiple ways.

A large California cooperative looked at the program, evaluated the odds that benefits could be obtained for its members and decided against applying. In such cases, co-ops need to weigh the cost of pursuing TAA help vs. the number of growers that could benefit from it, and the likelihood of success, FAS advises. In this case, five determined growers got together in February and filed a petition on their own that FAS accepted. Upon review, however, the petition was denied because the price decline was found to have resulted from domestic overproduction rather than import competition.

Once FAS certifies a petition, eligible producers of the commodity in the effected geographic region have 90 days to apply for technical assistance and cash benefits. USDA FSA county offices (often located in USDA Service Centers) can help producers prepare and submit their applications. Technical assistance under the program can provide access to a wide variety of resources from USDA's Cooperative State Research, Education, and Extension Service (CSREES), in partnership with a county Extension service. Farmers will receive information regarding the feasibility and desirability of substituting one or more alternative commodities and assistance with improving the competitiveness of the production and marketing of the adversely affected commodity.

To qualify for a TAA cash payment, producers must complete Form FSA-229, receive technical assistance from the Extension Service and submit supporting documentation by September 30. If an applicant has already received $10,000 in TAA benefits, or $65,000 in counter-cyclical payments for the year, reported an increase in net farm or fishing income in the most recent tax year, or has an annual adjusted gross income greater than $2.5 million, he or she is disqualified from receiving a TAA cash payment.

The amount of cash payment will be equal to the quantity produced in the most recent marketing year multiplied by the approved payment rate. The payment rate is one-half the difference between the average price in the most recent marketing year and 80 percent of the average price for the five preceding marketing years.

Maine growers' petition for blueberries certified

Last January, a petition from Maine wild blueberry growers was the first to be certified. Wild blueberries grown in Maine have been facing stiff import competition from those produced in Canada's eastern provinces. Prices had been so low that some growers were afraid for their industry. One grower commented that he could not even afford to fertilize his crop.

A team of Extension specialists put together a technical assistance curriculum for the wild blueberry growers and initiated an education effort. A payment rate of 2.8 cents per pound was established. The grower price of Maine wild blueberries in the petitioned year of 2002 was 28 cents.

The average price in 1997-2001 was 42 cents. Eighty percent of this five-year average was 33.6 cents. The difference between 80 percent of the five-year average price and the petitioned year price was 5.6 cents. The payment rate is half of this figure, or 2.8 cents per pound.

Prior to the anniversary of its original certification, FAS must determine annually if trade and economic conditions justify a petition's renewal. FAS will begin evaluating the approved fiscal year 2004 petitions for recertification in fiscal year 2005.

Free-rider issue arises

When does it make sense for a cooperative to petition for adjustment assistance? Cooperatives and associations submitting petitions should be aware that all certified growers in a state or production region are equally eligible to receive benefits, regardless of their membership or participation in the organization preparing the petition.

The work required in submitting a petition may be quite high for one, or even a few growers, when the imports are not the same raw commodity produced by the growers. It sometimes makes sense for some representative association of growers to petition for TAA.

Where a cooperative has a large enough membership of prospective growers and a trade association is either not organized or is lacking in ability or willingness to manage the petition process, it may present an opportunity for a cooperative to provide one more service for its members.

There are six wild blueberry cooperatives in Maine with members who benefited from the work of the petitioning trade association — the Wild Blueberry Commission of Maine. One of those cooperatives may well have been the next most logical candidate for preparing that petition. ■

longer restricted to the requirement that its members be farmer-producers. Now MCP could, for example, have as one of its members a multi-billion-dollar multinational corporation.

The change was enormously beneficial to the former cooperative's balance sheet. With a few strokes of a pen, ADM changed from a $120 million creditor to a 30 percent partner. The LLC also re-valued its stock to $1.02 per share.

On April 22, 2002, a team of legal and financial experts from New York and ADM headquarters flew in to attend a regularly scheduled board meeting. Ethanol and fructose prices were on the agenda, but this meeting turned out to be anything but routine. A month earlier, ADM had tendered an offer to purchase MCP outright. And, according to press reports, Dan Thompson, MCP's CEO, presented ADM's offer to the board.

According to directors quoted in the *Star Tribune*, there were implications and vague threats of lawsuits issued to any director who might publicly voice opposition. Each board member was reportedly asked point blank if he or she had hired legal representation or discussed any financial details prior to this meeting. Several directors have said the atmosphere of these meetings was one of intimidation and coercion.

Golden parachutes

Some co-op members have said "sweetheart payments" to executive staff greased the wheels for ADM's takeover of MCP. A reported $8.5 million was to be awarded at sale to MCP's executives, and the amount was doubled if the sale went through by a specified date. A total of $20 million in accelerated pensions was to be divided among eight management-executives, and the balance of his annual salary of $385,000 was to be paid immediately to CEO Thompson when the merger went through, according to Minnesota Public Radio reports.

The board voted 19-5 in favor of bringing the decision to sell MCP to ADM to the membership for a vote. Under the terms of the sale, ADM agreed to purchase individual shares of MCP stock for $2.90 per share, a total of $396 million. ADM also agreed to assume MCP's remaining debt of $240 million.

The shareholders voted conclusively, 3,825 to 736 (a super-majority of 83 percent of voting members) in favor of the sale. The enterprise value of the sale was about $760 million, based on the cash amount, the 30 percent equity already owned by ADM and the agreed-upon debt assumption.

Antitrust concerns were raised by the merger of the No. 1 and No. 2 producers of ethanol and high fructose corn sweeteners. But in July 2003, the Department of Justice ruled in favor of the sale with the provision that a joint-venture with Corn Products International was to be dissolved.

Some Minnesota lawmakers, angered that the state had provided $33 million in ethanol-producer subsidies to MCP, only to watch ADM acquire it, demanded a refund. At last account, however, no one was sure about what recourse, if any, the state might have.

New Age co-op had age-old problem

Incentive payments aside, the biggest reason to sell MCP may have been even more fundamental. Given the cooperative's near-death experience in 1997, its heavy debt burden and its struggle to return patronage to members, it's easy to appreciate that some members might be having second thoughts regarding their investment.

Moreover, the secondary market in MCP shares, by all evidence, was indeed non-existent — a detail duly noted among a majority of the stockholders that were at, or approaching, retirement age. Because of the restriction that stock had to be sold to members, existing or potential, any member seeking to cash out of the cooperative had to be especially resourceful.

First, that member had to find another stockholder who was willing to purchase his or her equity at current prices, which meant that the buyer wasn't actively planning his or her own retirement. Or the seller had to find a non-member seeking membership who also had the wherewithal to make the purchase in such cash-strained times.

Under the economic circumstances of recent years — low corn prices and large indebtedness — finding prospective members both willing and able to buy into the cooperative was difficult at best. Many members had even borrowed the capital to buy into MCP.

Thompson put it this way to Minnesota Public Radio: "A lot of members in their 50s invested in this company. They can't sell their stock: there's no liquidity. Now they're 75 years old…and they want to cash out. They need cash for retirement purposes and have no way to do it."

MCP members shared these circumstances: their per-member investment was substantial, at least $10,240; some had invested hundreds of thousands of dollars; they were in a 'cooperative' with a closed-membership policy; very few of the member firms were legally incorporated; there was a large membership and ownership transfer, either intergenerational or otherwise, was relatively prohibited.

MCP's situation met all the conditions for an extreme horizon problem.

Despite the questions raised by the way the board meeting was handled, directors were under pressure to increase cash flow to members. They had the choice of speeding up equity retirement programs — which would result in a whole new set of problems — or liquidating the cooperative's assets in whole or in part. The sale to ADM was therefore, an extreme case in which the tendency to emphasize current cash flow at the expense of future earnings was fulfilled by total liquidation of the firm's assets.

Some leaders of other Midwest ethanol cooperatives say they look at the MCP experience as a cautionary tale of what can go wrong, and that they hope to avoid a similar fate. ■

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Centrally coordinating production practices and harvesting decisions may result in better responses to changes in fruit and vegetable markets. This report surveys fruit and vegetable cooperatives to determine to what extent they practice coordination, and if it has improved profitability.

RBS Service Report 22
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Newly updated listings of 400 major cooperatives, covering all 50 states. Includes type of co-op, addresses, phone and fax numbers, e-mail addresses, and names of CEOs

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