Growing toward ‘Independence Day’
Speaking at the annual Commodity Classic farm conference in Tampa, Fla., in early March, Agriculture Secretary Tom Vilsack took a strong stand in support of our nation's biofuels industry. He said American agriculture can produce enough crops to supply both our food and biofuel needs.

"Don't bet against the American Farmer," Sec. Vilsack said. "If you do, it's a losing bet."

The Secretary's words resonate deeply as Americans are once again watching, with that all-too-familiar feeling of helplessness, as gas prices soar in the wake of the political turmoil in North Africa and the Middle East.

According to one estimate, each penny increase at the gas pump sucks $1 billion out of the U.S. economy. Petroleum imports account for 50 percent of our nation's trade deficit.

American farmers and their co-ops are not the types to just wring their hands over the situation; they have stepped up to the plate and are trying their best to do something about it.

To help our nation progress further along the road to energy independence, Arkansas farmer Joey Massey and his fellow board members of MFA Oil are supporting an ambitious plan under which its farmer-members would plant a special grass crop (Miscanthus x giganteus) on nonproductive farmland in Missouri and Arkansas as a feedstock for biomass fuel. As you can read on page 4 of this issue, the co-op would then process the grass into biomass pellets, which will be marketed to power plants and the poultry industry (for heating poultry barns). At a later date, the grass could also be used to produce ethanol.

Massey looks forward to the day when he will not only help feed the nation and world with his rice, wheat and soybean crops, but will also run a farming operation that produces all of its own energy needs. MFA Oil CEO Jerry Taylor cites a study that shows that the project could create 2,700 new jobs and have a $150 million impact on the region.

Those who attended a session on biomass power that I moderated at the recent USDA Ag Outlook Forum heard about the Tennessee Biomass Innovation Park, where a demonstration cellulosic ethanol plant is producing fuel from switchgrass supplied by a farmer co-op (this project will be featured in an upcoming issue of Rural Cooperatives).

Meanwhile, in Iowa and elsewhere, progress is being made by ethanol processors developing technologies to use crop residues — such as corn stover — as a source for ethanol.

All of this underscores that there will probably be a number of different sources for biomass fuel — including dedicated energy crops (such as Miscanthus and switchgrass), crop wastes and waste woods.

As readers of this publication know, livestock wastes can also be used for energy production. More dairy farmers are turning manure into methane gas energy.

It's not just what farmers can grow on the land that produces renewable energy. On the high plains of the Dakotas, the nation's largest co-op wind farm is being developed (see page 10). With 108 wind turbines that can generate 150 megawatts of electricity, the Crow Lake Wind Project — backed with a loan guarantee from the Rural Utilities Service of USDA Rural Development — is a joint effort of the Basin Electric Cooperative, a local association of landowners (which owns seven of the turbines) and a technical college (which owns one turbine that will be used to help train future turbine technicians).

When fully operational, the new turbines will mean that the Bismarck, N.D.-based co-op will be producing 12 percent of its total power capacity from renewable resources. From the vantage point of just 10 years ago, that is an amazing accomplishment. Basin Electric is also recovering heat from the exhaust of the compressor pumps on gas pipelines.

These projects represent just a small fraction of the renewable energy projects ongoing, or being planned, across the nation. Ultimately, rural America's greatest source of power is the ingenuity and drive of our people. If we can help nurture their ideas and determination, I have no doubt that someday this nation will achieve energy independence.

As Secretary Vilsack indicated, never underestimate the American farmer. And if I may add to that: never underestimate what our farmer and utility co-ops are capable of when the power of one is multiplied by the many.
MFA Oil has formed a new subsidiary to help its members grow Miscanthus x giganteus on marginal farmland in Missouri and Arkansas. This hybrid grass, seen here in autumn on the University of Illinois Experimental Station, would initially be processed into biomass fuel pellets, but could also be used as a feedstock for ethanol. Photo by Don Hamerman, courtesy Institute for Genomic Biology/University of Illinois.
Growing Toward ‘Independence Day’
no seed would ever be planted if a farmer didn’t first have a vision of ripe fields of grain or other crops at harvest time. Nor would any orchard be planted or pruned without the image of all those bushels of fruit or nuts to come.

But Joey Massey has a vision for his Arkansas farm that goes beyond the bounty of his rice, soybean and wheat crops.

“My vision is that someday I will grow all my own energy — that this operation will become completely energy independent,” says Massey, who farms about 1,000 acres in northeast Arkansas. The key to this vision lies not amid his most productive farmland. Rather, his renewable energy goal is rooted in 80 acres of non-productive cropland that surrounds the rural airport that serves his county.

This airport land was growing nothing but weeds when Massey, who is also a licensed pilot, took it on a few years ago as something of a community service project. The idea was to spruce things up a bit — hopefully to even pull a crop from it to cover the expense of caring for the land.

Massey cut down the weeds and has tried his best
to grow soybeans and wheat on the airport tract. But the fertility of the land is just too marginal to produce a decent crop, he says.

However, studies and experience have shown that marginal land such as this can produce a good stand of Miscanthus x giganteus (Miscanthus), a towering ornamental grass that has been grown profitably in Europe for the past decade as a bio-energy crop (see sidebar). Multiply this 80 acres of marginal land by tens of thousands of similar acres across Missouri and Arkansas, and the potential for a major new biofuel industry becomes apparent, Massey says.

**Avoiding ‘food vs. fuel’ debate**

At this point in the conversation, Massey doffs his farmer’s hat and more aggressively pursue biomass to help the nation grow its way toward a renewable energy future.

“The ‘food vs. fuel’ debate was really heating up that point,” Massey recalls, referring to critics of corn ethanol, who see an ethical dilemma in diverting food crops for energy use. At his first MFA Oil board meeting, Massey was happy to learn that the co-op had been studying the renewable fuel market for several years.

“At that time, we were primarily looking at switchgrass as a dedicated energy crop. But we soon changed our focus to Miscanthus, for a number of reasons,” Massey says. Unlike switchgrass, Miscanthus is non-invasive, so there should be no concerns about it escaping plots and “taking over the countryside,” he notes. Miscanthus thrives on marginal land that will not support traditional crops, and will do so with only 20 inches of rain per year and very little fertilizer once established.

“I keep looking for a negative aspect of Miscanthus, but I can’t find one,” says Massey. “It won’t displace any food crops, so we avoid the food vs. fuel debate. And we can harvest two to three tons more per acre than with switchgrass.” [Proponents of switchgrass counter that its big advantage is that it is much less expensive to establish].

“Bottom line, I am really excited about this project and what it could mean to farmers in this region.”

**Time to gear up biomass**

At MFA Oil headquarters in Columbia, co-op CEO Jerry Taylor shares Massey’s excitement for the Miscanthus/biomass energy project.

“The nation has to get the biomass industry growing, and we think this project represents a big step in that direction,” Taylor says. He cites a study that shows the project could have a $150 million economic impact and create 2,700 new jobs, with 1,700 family farmers growing the crop.

The fear that Miscanthus would be planted on productive cropland is not a real concern, Taylor says. “Frankly, it will not compete against $7 [per bushel] corn or $14 [per bushel] soybeans. And when you are talking about $100 [per barrel] oil, biomass can compete with petroleum.”

MFA Oil has established three separate project areas, each of which has at least 50,000 acres of marginal farmland suitable for growing Miscanthus. The projects areas are: Central Missouri (with Columbia being roughly in the center); Southwest Missouri and Northeast Arkansas. To sign up for the program, a farm needs to have at least 40 acres of marginal farmland that can be devoted to Miscanthus. If the 50,000 acres per project area is achieved, it should yield about 600,000 tons of biomass per year, per project area.

The co-op’s plan calls for each of the projects to have its own Slovak and Czech farmers. These half-acre plots at the University of Illinois Experimental Station at Champaign, Ill., are used to compare yields of Miscanthus x giganteus, switchgrass and corn/soybeans. Photo by Andrew Leakey.
these project areas to have its own processing plant, where the grass would be turned into biomass fuel pellets. The pellets would then be burned in powerplants, or burned to heat poultry houses. “The technology for processing pellets has been around for a long time; it is not complex,” Taylor says, adding that each of the plants would be “scalable,” so that they could be expanded as the number of acres in each project areas grows.

Each of the three project areas is a little different, Taylor explains. “In the Central Missouri project area, things are really being driven by the end market.” Both the city of Columbia and the University of Missouri have their own power plants that are facing mandates to use more biomass.

In the Northeast Arkansas project area, there is a great deal of marginal farmland along Crowley’s Ridge, Taylor says. “Today’s inputs are just too expensive to make a lot of that land viable for crop production. But it should do well growing Miscanthus.”

Bordering this hilly ridge are large areas of flat, productive rice and cotton country. But rice and cotton are “thirsty” crops, and a big concern is the falling level of the water table, which could threaten the future of irrigated agriculture in the area.

The fact that Miscanthus should get by with just normal rain levels in most years is another big plus for it. The only irrigation water it would likely need might be in the first year or two when the crop is being established, Taylor says. Indeed, Miscanthus can actually help capture excess rain water and sequester it back into the aquifer.

Poultry producers could benefit

In the Southwest Missouri project area, there is both a great deal of marginal farmland and a large poultry industry which is a ready-made market for the biomass fuel pellets.

One such poultry grower is Rusty Mulford, who raises 139,000 chickens annually. Mulford, an MFA Oil delegate (the co-op’s advisory body, just one step down from the board), has six poultry barns and 80 acres in the Ozarks, 60 acres of which he is ready to sign up to grow Miscanthus on.

He already burns biomass pellets to help heat his poultry houses. He figures his own farm will burn the equivalent of 20 acres of Miscanthus pellets each winter, leaving an additional 40 acres to generate a cash return.

When Rural Cooperatives spoke with Mulford in February, Missouri had just been through a prolonged, record-

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**Miscanthus facts**

The following information was provided by MFA Oil Biomass LLC.

**What is Miscanthus x giganteus?** There are several varieties of Miscanthus commonly used in landscape design as an ornamental grass. Although it is from the grass family, like corn, it originated in Asia, like soybeans. It can grow in temperatures as low as 43 degrees and is estimated to last 20 years or more after the initial planting.

**How is it planted and how does it grow?** Miscanthus can be planted with a vegetable planter or a rhizome harvester. Land needs to be prepared prior to planting to reduce weeds. Fertilizer is optional in the first year, and is needed about once every three years. Weed control is needed the first two years, but in the third year and beyond, Miscanthus crowds out the weeds, eliminating the need for treatments.

**Does it require irrigation?** Usually not, once established. But in a dry season, it could need irrigation. MFA Oil Biomass says it will have irrigation equipment available and will work with member-farmers needing irrigation assistance.

**How much tonnage does Miscanthus get?** Farmers should consider 10-15 tons per acre a reasonable goal.
breaking cold spell. Frigid temperatures have a huge impact on the profitability of poultry production. Indeed, propane expense for winter heating is his largest single cost of production, Mulford says.

Luckily, he installed biomass fuel heaters in 2008 as a supplemental source of heat. He has been buying fuel pellets made from waste wood. During three weeks of intense cold, he calculates that those biomass pellet burners saved him $2,500 to $3,000 in propane bills.

Mulford is firmly behind MFA Oil’s biomass project. “As a farmer-owned energy co-op, MFA Oil has the connections to farmers and is well positioned to develop the additional infrastructure needed,” he says.

There is a great deal of land suitable for Miscanthus production in his region, Mulford says, including relatively small blocks of land broken up by vacation home developments. “That land just isn’t suitable for traditional crop production; but we believe it could grow Miscanthus.”

**Co-op forms subsidiary and partnership**

MFA Oil has created a subsidiary to pursue the project: MFA Oil Biomass, a limited liability corporation that operates on new-generation co-op principles (the same business model used by most other grower-owned ethanol and biodiesel plants around the nation).

MFA Oil is partnering with Aloterra Energy LLC to undertake the project. Taylor says the co-op has a long-standing working relationship with the principals of Aloterra, a company which was formed last year to work on biofuel marketing, distribution and logistics issues. Aloterra will supply the rhizomes, or the bulb-like roots, from which the crop sprouts.

At some future date, the Miscanthus pellets might even be processed into ethanol. Miscanthus can yield three times more ethanol per acre than corn, according to Scott Coye-Huhn, director of business development for Aloterra Energy.

**Energy mandates underlie push for new energy crops**

These state and federal legislative mandates are among the key “drivers” MFA Oil cites in pursuing a biomass energy program:

- **Federal Fuel Standards** — Passage of the Renewable Fuel Standard 2 (RFS2) mandates that U.S. refineries must produce 36 billion gallons of renewable fuels each year by 2022. Of that amount, 16 billion gallons must come from cellulosic products (like Miscanthus).

- **Missouri Law** — This law mandates that by 2021, Missouri must generate 15 percent of all electricity it produces from alternative energy sources, which include biomass (like Miscanthus), wind and solar.

- **U.S. Environmental Protection Agency Transport Rule** — This rule mandates that power plants in 31 states (including Missouri) reduce their sulfur dioxide (SO₂) and Nitrogen Oxides (NOx) dramatically. By 2014, they must reduce SO₂ by 71 percent and NOx by 51 percent. Biomass is a key product to burn with coal to reduce those emissions.

- **Feed-in Tariffs** — Ontario, Canada, has initiated a “feed-in” tariff that provides significant economic incentives to burn biomass by guaranteeing 13.8 cents per kilowatt-hour. European biomass markets are growing to meet alternative energy goals; the United Kingdom recently announced the implementation of a feed-in tariff that gives a subsidy to burn biomass for heat.

Crops like Miscanthus also have a high value when used to replace petroleum-based plastics and other polymer products. Beyond plastics, many companies that currently use fibers and paper are researching replacing the materials with Miscanthus.

Processing Miscanthus into liquid ethanol is more complex than producing fuel pellets, but Taylor says ethanol could be “a huge market” for Miscanthus. Existing corn ethanol plants could be modified to use the
pellets to supplement corn.

“Our strategy would be to not duplicate assets that already exist,” Taylor explains. “If the highest use of our members’ crop is to sell it to existing plants, that is what we will be doing. If the highest return for our growers is to invest in an additional ethanol plant, that is what we would do.”

Taylor notes that POET corporation, the nation’s second biggest ethanol processor, is currently experimenting with the use of corn stover (corn cobs and husks) to make cellulosic ethanol. MFA Oil does not see biomass as being a one fuel industry, hence Taylor does not view corn stover ethanol as a threat or competition to Miscanthus. “We hope they will make a commercial breakthrough for second-generation biofuel.”

For farmers, the biggest drawback of Miscanthus is the expense — about $600 per acre — to establish the crop, and then the three-year wait for full production. However, once established, the crop is basically self-sustaining for 20 years or more, Taylor says.

Planting and propagating the rhizomes requires special equipment, which the co-op is procuring so that it can perform these tasks for co-op members. The bamboo-like stalks of fully mature Miscanthus could prove hard to handle for average harvesting equipment, although some farmers might want to modify their existing gear to do it themselves. However, MFA Oil Biomass will have equipment available for specialty harvesting for members.

Since Miscanthus is harvested in the winter after the grass has gone dormant (following the first frost of the year), it would not compete for harvesting equipment in the same time window as other crops.

“It can be harvested just about any time from December through February, just as long there is not a lot of snow on the ground,” Taylor says. “Once the grass goes dormant, the nutrients go back into the rhizomes, which is the main reason it rarely needs to be fertilized.”

University supports project

As the vice provost for economic development at the University of Missouri in Columbia, Steve Wyatt’s job is to link the resources of the university with the private sector to improve the state’s economy. He has thus been very interested in working with MFA Oil on its Miscanthus biomass project. The university could be both a customer for the Miscanthus biofuel and a source for technological help to make the project happen, he says.

Another beneficial aspect of Miscanthus is that it helps to sequester carbon in the ground, Wyatt says. Promoting biomass energy meets two of the university’s five overall strategic goals: promoting food for the future and sustainable energy, he notes.

The university currently uses a 5-percent biomass mix with the coal that fuels its campus power plant in Columbia. That biomass supply comes in the form of 6,000 tons of waste wood products annually, including sawdust, old shipping pallets and brush.

But the school’s appetite for biomass will be soaring with the installation of a new furnace that will require 100,000 tons of biomass each year.

Wyatt anticipates that about one-third of the expanded biomass supply will continue to come from waste wood, another third from forest thinnings and one-third from special energy crops, such as Miscanthus. The university is seeking bids from potential biomass suppliers for the new broiler, which is expected to be operating by the end of 2012.

The University of Missouri is especially interested in helping to solve distribution and other logistical challenges facing the emerging biomass industry, Wyatt says.

USDA program could help offset planting costs

The co-op’s biomass plan calls for use of USDA’s Biomass Crop Assistance Program (BCAP) to help farmers offset the cost of planting Miscanthus. Under BCAP rules, USDA can help farmers offset as much as 75 percent of the initial cost of planting a biomass crop and for land rent while the crop is brought into production. Once the crop matures, farmers would be eligible for two years of matching payments, up to $45 per ton beyond the selling price. (For more information on the program, visit: www.usda.gov/documents/11DleyUSDAFSA.pdf.

Land in USDA’s Conservation Reserve Program (CRP) is not allowed in the BCAP program.

When interviewed in late February, Taylor was keeping a close eye on some efforts that could result in reduced funding for BCAP, or even its elimination. If that happens, he said the co-op would likely have to scale back the scope of the project. “Truthfully, we are concentrating on our ‘A’ plan right now, and it is based on successfully qualifying for BCAP.”

This situation raises the larger concern often heard among those in renewable energy that the U.S. needs to make a commitment to a long-term renewable energy program — one lasting 10 to 20 years. This type of firm policy foundation is needed if the private sector is to get behind second-generation biofuel the same way it rallied to corn ethanol, Taylor says.

“Right now, the country really just has energy programs, not a long-range energy policy, and those programs can change from administration to administration,” Taylor says. “What we are talking about here is displacing oil, two-thirds of which is imported and accounts for half of the nation’s trade deficit. These renewable energy programs are part of the solution, not the problem. All of the dollars generated by renewable energy projects like this stay local.

“When you add in doing a project like this with a cooperative business model, then all the dividends from profits also stay home when they are redistributed to the growers. That’s why this project has so much potential.”
It’s billed as the largest co-op-owned wind-generation project in the country, with 108 turbines and more than 150 megawatts of generating capacity. Everything about it seems to be big.

The Crow Lake Wind Project is a venture of Basin Electric Power Cooperative, a large generation and transmission co-op headquartered in Bismarck, N.D. Its members are 135 power distribution co-ops that serve 2.8 million customers in nine Midwestern states.

Crow Lake represents only part of Basin Electric’s initiative to draw 10 percent of its generating capacity from renewable sources. The effort also includes purchasing power from outside wind farms and building facilities that generate power by recovering waste heat produced by gas pipeline pumps. When the project is fully operational this spring, the co-op will have more than 700 megawatts of renewable generating capacity—about 12 percent of total capacity.

When in full production this spring, the Crow Lake Wind project will boost Basin Electric Cooperative’s renewable energy generating capacity to more than 700 megawatts, or about 12 percent of its total capacity. All photos courtesy Basin Electric Cooperative
Nation’s largest co-op wind farm includes community- and college-owned turbines
The project is a shared endeavor which includes the co-op's 100 wind turbines and seven turbines that belong to a community-based, limited-liability corporation (LLC). One additional turbine is owned by a local technical school, which will use it for training turbine technicians. Basin Electric's wholly owned subsidiary, PrairieWind S.D 1 Inc., will operate and use the power of all 108 turbines.

**Effort launched in '05**

The impetus for the project came from a resolution passed by the cooperative's members in 2005, which set the 10-percent renewable source goal for the year 2010. With the availability of local member systems and other facilities in an area with excellent wind resources, wind turbines were the natural way to go, says Basin Electric spokesman Daryl Hill.

Basin had been using wind-generated power prior to the Prairie Winds project. Its first wind project included a pair of 13-megawatt turbines in Chamberlain, S.D., about 40 miles west of Crow Lake, which were built in 2001. They were followed by two more turbines in Minot, N.D., and by a number of wind farms owned by developers from which the cooperative purchases power. In many cases, local member-distribution cooperatives act in partnership with Basin to provide transmission facilities.

In 2009, Basin completed the first phase of the Prairie Winds initiative, a 120-megawatt wind farm south of Minot. That project is owned by another Basin Electric subsidiary, PrairieWinds ND 1 Inc.

The site selected for the South Dakota project was chosen from among suitable areas not already claimed by competing wind developers. Computer models were used to select the most suitable locations for the towers, taking into consideration such factors as zoning requirements, local wind characteristics, elevation, etc. The selection process included consultations with local landowners, federal agencies and 14 Native American tribes. The entire area encompasses about 38,000 acres.

The Rural Utilities Service of USDA Rural Development is funding 60 percent of the $340 million project cost with a loan guarantee for $204 million.

Jim Headley, a local rancher, says that landowners in the area were, for the most part, eager to sign up to participate. Headley is a board member of Central Electric Cooperative, his local distribution co-op. He became a supporter of the project after learning about it from an acquaintance at Basin Electric. He then helped get the word out to his fellow landowners.

Those who chose to participate in the project agreed to a lease on their property for whatever number of turbines the project chose to install. Each of them initially received the same nominal fee in return for the lease, until the towers were built.

**Landowner payments**

The compensation each participant ultimately receives depends on the number of towers operating on his or her land. Comparative performance of the generators is not used in calculating payments. The compensation agreement and the leases are for 50 years, or until the towers are taken out of service and dismantled.

Some potential turbine sites, says Headley, turned out to have problems because construction might disturb potential archaeological sites or artifacts. That required some adjustments of the computer model for the project.

Some participants were disappointed not to have more turbines installed on their property. But overall, he says, the towers have been well received by residents.

“They do totally change the landscape,” Headley says. “At first, you’re not sure about it, because it’s such a difference. After a while, though, you get used to them, just like anything else.” Although some have said that the noise of wind turbines makes them undesirable, Headley finds the sound they make is hardly noticeable.

“If you get close enough, you can hear them,” he says. “But it’s a very low sound, maybe like a distant jet or a train far away.” Headley says that when winds are high, the sound of the turbines is masked by the wind itself. “You’re more likely to hear them when the wind is low,” he says.

The positives, Headley believes, far outweigh the negatives. “Out of 38,000 acres, they’re really only disrupting about 110 acres,” he says. “Overall, I think it’s a positive thing for the grasslands here. It’s good for people’s income and offers something down the road for future generations.”

**College training turbine techs**

With a growing number of wind turbines in the area, the demand for trained technicians is growing as well. To meet that demand, Mitchell Technical Institute, a two-year college located in nearby Mitchell, S.D., started a training course in the fall of 2009.

The college already offered courses in powerline construction and maintenance, among other utility-related fields. It wanted to expand its offerings in the area of wind power, says spokesperson Julie Brookbank. With Basin Electric's help, the school now has its own turbine as part of the Crow Lake project.

The college obtained $1.16 million in grant assistance from the Economic Development Administration of the U.S. Department of Commerce. It received further help from the South Dakota state government and cooperation with Basin Electric for construction. The remaining $1.72 million of the $3.2 million total cost of the turbine was financed with a bond, which it expects to pay off in 17 years from the proceeds of power sales.

Owning the turbine means that the college has unrestricted rights to it for training purposes. The school can shut down the unit whenever it chooses to allow students access to it. Liability insurance issues caused by using someone else's turbine for training are also eliminated.

The first group of students in the program will have access to the turbine
Another seven turbines are owned by South Dakota Wind Partners LLC, a community-based cooperative effort to give wind power investment opportunities to local residents. It was organized by four local organizations: East River Electric Co-op, the South Dakota Corn Utilization Council, the South Dakota Farmers Union and the South Dakota Farm Bureau.

Investors must be residents of South Dakota. They receive tax advantages as well as dividends and interest income. More than 600 investors are participating.

The drawback to power generated from wind, aside from higher costs, is one it shares with solar power: it cannot be used as a baseload power source because of its unreliability.

“You can’t count on wind to be there when you want it,” is the way Hill puts it. What wind generators can do is reduce the amount of fuel burned in conventional power plants when the wind is blowing.

**Pipeline heat recovery**

There are also ways to improve the cleanliness and efficiency of baseload generating capacity. The gas pipeline heat recovery units from which the co-op purchases power are one example. While relatively small — eight units generate a total of 44 megawatts — the units provide a reliable, round-the-clock source of power while burning no fuel at all.

The energy they use comes from the exhaust of natural gas-fueled turbines driving compressor pumps on a gas pipeline. It’s heat that otherwise would have been vented to the atmosphere, but in the recovery units it is used to transform a fluid into vapor that drives a turbine powering a generator. It’s both elegant and efficient.

More conventional power sources are continually improving in efficiency as well. Construction is underway on the cooperative’s new Deer Creek Station, a 300-megawatt natural gas-fired “combined-cycle” generating plant that also uses recovered heat. The primary generator is driven by a turbine that burns natural gas, while its exhaust heat is used to produce steam to drive a second turbine-generator set.

The water used to generate the steam is also recovered and used again. The plant is to be used as an “intermediate” supply source — as opposed to either a “peak load” generator, which is kept in reserve to handle extraordinary power demands, or a baseload source, which operates more or less continually.

The system design allows it to be started and stopped economically. It starts operating to supply power during periods of higher demand, then shuts down when the load tapers off. The plant is scheduled to go into service in June of 2012.

The most inexpensive way to generate baseload power remains burning coal, especially when the power plant is located near the source of fuel. Dry Fork Station is Basin Electric’s newest coal-fired plant, currently under construction near Gillette, Wyo. It’s co-owned with the Wyoming Municipal Power Agency and will be maintained and operated by the co-op. The facility is being built next to its fuel source — the Dry Fork Mine.

The 385-megawatt plant uses the latest clean-burning, high-temperature boiler design and scrubber technology to minimize emissions. The German-designed reflux circulating fluid bed dry scrubber is described by Basin as “state-of-the-art” in removing sulfur dioxide from the exhaust while using a minimal amount of water.

The new-design temperature-controlled boiler and catalytic converters also reduce nitrous oxides. The plant uses air cooling to condense steam for reuse, instead of the more widely used water-cooled cooling towers — important because the plant is not located close to a large water source and has to pump its water from deep wells.

The cooperative says that a quarter of the plant’s cost is for emissions controls, and that the site is designed to allow the adoption of carbon-recapture technology, if it becomes necessary. Experimental carbon-sequestration technology is also being explored by the cooperative at its Antelope Valley Station in North Dakota. One of the co-op’s subsidiaries, Dakota Gasification Co., recaptures and sequesters some of the carbon dioxide produced by converting coal to gas.

When all the current energy expansion plans are finished, the cooperative projects its total generating capacity — both owned and purchased — will be 5,004 megawatts. Of that amount, about 750 megawatts will come from renewable sources. With its aggressive approach to clean power production, Basin Electric illustrates the co-op sector’s dedication to the communities it serves.
From forestry to local foods, multi-stakeholder co-ops gaining in popularity

A Convergence of Interests

By Margaret Lund
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Editor’s note: Margaret Lund is a consultant with the Cooperative Development Center at Kent State University in Ohio, which recently published a new manual on multi-stakeholder cooperatives: Solidarity as a Business Model: A Multi-stakeholder Cooperative Manual. USDA Rural Development’s Rural Cooperative Development Grant program helped provide support for the project. The manual can be downloaded from the Center’s website at: http://oeockent.org/index.php/library/category/46/cooperatives.

Twenty-five years ago, the town of Sacre-Coeur in Quebec faced a daunting situation familiar to many rural communities. Located far away from major population centers, this community of 2,000 people thrived or declined based on the tumultuous fortunes of its single industry: forestry.

In 1984, the forestry industry was in a deep slump. The local sawmill, the town’s major employer, was facing its third bankruptcy under as many management teams. It appeared the mill would soon be permanently closed. The bank that held the sawmill’s mortgage couldn’t even find a buyer for the assets.

But local community members then came forward with a different plan. Banding together under the banner of the Sacre-Coeur Development Corporation, they secured the assistance of their local credit union (itself another cooperative success story) as well as a
A multi-stakeholder co-op formed to save the local sawmill in the small town of Sacre-Coeur, Quebec, has now expanded into other businesses, including the manufacture of tiles, doors and shipping pallets. Photos courtesy Boisaco Inc.

Grant from the provincial government to help buy the sawmill for the liquidation value of its assets.

After considering several options, the development corporation decided to reincorporate the mill as a single company owned in three equal parts by a cooperative of millworkers, a cooperative of loggers and a consortium of local businesses and other community members. The resulting company — Boisaco Inc. (“bois” means wood, or timber, in French) — has been successful beyond anyone’s expectations.

Three months after reopening in 1985, with the benefit of new management and a recovering lumber market, the company had earned enough revenue to retire its modest debts.

**Three-way split for profits**

Company profits are divided among the producers, workers and community members. An unusually high share (more than 50 percent) of profits is directed for research and development, or kept as reserves. This practice of investing heavily for its long-term future has allowed Boisaco to expand its economic base beyond the original sawmill operation. It has begun to acquire other local businesses, a strategy that has helped it weather the boom-and-bust world of the lumber industry much more successfully than its predecessor companies had.

These businesses include:

- Graniber, which extracts and processes granite for tile;
- Sacopan, which manufactures doors;
- Ripco, which uses sawdust to make bedding for horse stables;
- Bersaco, which manufactures wooden pallets, and
- Granulco, which manufactures wood pellets for energy.

Today, Boisaco directly employs 200 people, with another 400 working in other forestry-sector jobs nearby. It is a source of local pride that the company has achieved its economic success without resorting either to high levels of debt or periodic layoffs caused by intermittent shut-downs that are common in the lumber industry.

Mary Anderson works with a nonprofit that is helping to ensure that local farmers and institutional food buyers of the Producers & Buyers Co-op in Eau Claire, Wis., are meeting each other’s needs. Photos by Gregg Blesch, courtesy Modern Healthcare.
when demand tapers off.

A key ingredient of the remarkable success of the Boisaco venture is the strength of its ownership structure. The uniting of producers, workers and community members — forced by dire circumstances to put aside their differences and work together — helped to ensure the survival of their community when its future seemed much in doubt.

Such multi-stakeholder cooperatives (or, as they are known locally, solidarity cooperatives) have been popular in Quebec for a decade or more. This co-op model is also finding increasing favor in the United States — especially in smaller communities struggling to find new ways to survive and thrive in difficult economic times.

**Co-op joins farmers with healthcare sector**

In Canada, the majority of multi-stakeholder cooperatives are involved in the healthcare or social service sector. In the United States, most of the interest to date has been in the local foods and alternative agriculture sectors. A case that has received national attention for its innovative business model is the Producers & Buyers Co-op of Eau Claire, Wis.

Unlike Boisaco, Producers & Buyers was not born in an environment of crisis, but rather from a conviction that “there has got to be a better way.” Sacred Heart Hospital in Eau Claire was used to ordering pretty much any food item it wanted, in quantities large or small, and having the food delivered directly to the hospital door within 24 hours.

The convenience of such a system was unquestionable, but some felt it was not without its costs. There was a desire to secure fresher, healthier foods for patients. In some dire situations — such as an outbreak of salmonella food poisoning — it can take weeks or months to track down the offending produce, which may come from thousands of miles away.

What might be an inconvenience to some could be a life-threatening issue for vulnerable hospital patients, as Sacred Heart CEO Stephen Ronstrom viewed the situation. He felt more freshly picked or packaged local food could benefit patients. Despite being located in one of the nation’s most productive farming areas, it was not always easy to buy food being grown just down the road.

With a “directive from the boss” to start buying local, Sacred Heart’s food service director Rick Beckler in January 2008 challenged attendees of a local food and agriculture conference to help him spend $200,000 a year on local foods. That was about 10 percent of Sacred Heart’s annual food budget.

The offer sparked a partnership with a local nonprofit, which helped the hospital staff connect with local producers. A series of meetings were held that eventually resulted in the formation of the Producers & Buyers Co-op. Interested parties met for more than a year to build a shared vision and overcome distrust from earlier unsuccessful attempts at local food sourcing. USDA Rural Development’s Margaret Bau, cooperative development specialist for Wisconsin, offered valuable advice to the group.

**Membership class expands**

The membership of the multi-stakeholder cooperative that eventually evolved from these meetings includes not only institutional buyers, such as Sacred Heart, and local farmers, but also other key stakeholders in the local food system, including meat processors and distributors. The co-op also includes a membership category for local community supporters who are neither institutional food buyers nor producers, but are still interested in contributing to an effort to rebuild their local food system.

Working together on a common enterprise has been an education for all concerned, as producers working through the co-op sought to match as much as possible the convenience that institutional buyers were accustomed to. At the same time, buyers came to better understand and acknowledge the constraints under which small-scale producers must operate.

Producers and processors who sign up for the co-op must agree to abide by growing and animal husbandry practices that are healthy for the land, the animals and the people eating the food. Buyers must agree to pay the real costs of having such standards in place, plus cover a small profit for producers. Buyers must also agree to exhibit flexibility when it is not possible to meet every production goal.

Producers agree to participate in, and maintain, a system in which each meal can be traced back to the farm, and even the cow it came from, if necessary.

While there have been some bumps and a lot of learning along the way, Producers & Buyers has now expanded to include two other hospitals as institutional buyers, which are supplied by 20 local farmers and processors. The co-op has provided a boost to the local economy, food quality has never been better at the hospital and co-op leaders are being sought by other groups across the country to share their expertise in rebuilding local food systems.
Co-op practices can be complex

Unlike traditional cooperatives — made up exclusively of buyers or producers or workers — multi-stakeholder cooperatives can be made up of any of these groups, or combinations of them. They may also include new categories of membership, such as “community supporters.” The simplicity of the definition of “multi-stakeholder” — i.e., two or more groups of different types of members coming together to pursue a common goal — belies the complexity of the practice.

Consciously choosing to focus on commonalities, rather than differences, does not always come naturally to people. As the members of Boisaco and Producers & Buyers Co-op soon found, there are few high-profile role models for this approach.

Replacing animosity or indifference with understanding and common purpose requires a set of communication and interpersonal skills that not everyone may naturally possess. It also generally requires that members adhere to a timeline that is longer than a single transaction, or even season of transactions, and that they commit to a vision that is broader than the success of one’s own family or farm.

Multi-stakeholder co-ops require all members to look beyond their immediate short-term interests and join with their business and community partners to envision a system where everyone’s interests will be met in different ways over the short-term as well as the long.

This may seem like a daunting order — so much so that some co-op observers have predicted failure for the multi-stakeholder approach. Interestingly, however, recent research from Canada suggests that such conclusions are not supported by empirical evidence.

Multi-stakeholder cooperatives are now the fastest growing class of cooperatives in Quebec, itself a bastion of innovative and successful cooperative practice. What little cross-sector research as has been done has found that multi-stakeholder cooperatives are succeeding at rates that are at least equal to that of traditional cooperatives.

Whatever inefficiencies or difficulties are presented by the time and effort required to build relationships and understand alternate perspectives, is made up for in practice by the high quality of products or services produced. There are also benefits from reduced transaction costs, made possible by increased trust between parties and a high degree of local knowledge and commitment.

It should also be noted that even a single-constituency cooperative may very well mask major differences between members of a common class. Large and small producers, for example, often have very different needs from their cooperative. In worker or producer cooperatives, younger members may have different, even opposing, interests than do those who are nearing retirement age. Credit unions, one of the largest and strongest cooperative sectors worldwide, must embrace the conflicting interests of borrower-members who desire low interest rates and depositor-members who favor higher rates.

Key governance issues

In addition to deciding which classes of members should be included in the co-op governance structure (consumers, producers, workers, community supporters or other important players), multi-stakeholder organizers also face important decisions regarding:

• Allocation of governance rights;
• Distribution of surplus;
• Transfer rights, and

continued on page 39
DAIRY CO-OPS

What they are and what they do
Dairy cooperatives, as a group, represent the most prominent of all agricultural marketing co-op sectors. Co-op milk and dairy product sales represented 42 percent of total commodity marketing by all U.S. agricultural cooperatives in 2007 (Deville, et al.). Dairy cooperatives account for a majority of milk sold in the United States, especially at the first-handler level and in the manufacture of “hard” dairy products (butter, cheese and milk powders).

In 2007, there were 155 dairy cooperatives in the nation owned by 49,675 member-producers, or 84 percent of the nation’s licensed dairy farms. They delivered 152.5 billion pounds of milk, or 83 percent of all milk marketed (Ling).

Cooperatives marketed 71 percent of the nation’s butter, 96 percent of nonfat and skim milk powders, 26 percent of natural cheese and 42 percent of dry whey products. Their shares of “soft” and cultured products were less significant: 4 percent of ice cream, 13 percent of ice cream mix, 11 percent of yogurt and 14 percent of sour cream. Co-ops processed 7 percent of the nation’s packaged fluid milk products in 2007.

Mission and functions

There is no mystery as to why so many dairy farmers organize in cooperatives: they seek to jointly and efficiently market their milk far better than they could as individuals. Milk is a “flow” product (cows are milked twice or thrice daily) and is highly perishable; it must be picked up from the farm and delivered to the market (milk plants) soon after it is produced. By working together through their cooperatives, farmers strive for better control over the movement of the milk through the marketing channel and to attain higher value for their milk.

The functions and services the farmers demand of their respective cooperatives vary, depending on the specific market situation the members of a cooperative face and their particular needs. Dairy cooperatives may be charged by members with the responsibility of performing one or more (or all) of the following marketing functions:

• Provide an assured market; typically there is a written, or tacit, agreement between a member and the cooperative that the cooperative is the exclusive marketing agent of the member's milk.
• Negotiate milk pay price and terms of trade with milk buyers (investor-owned processors).
• Collect and ensure payment from milk buyers.
• Check weights and tests; this helps to ensure that the milk payment a member receives is accurate and commensurate with the quantity and quality of the milk delivered to milk buyers.
• Arrange for milk hauling; milk obviously must be picked up from the farm in a timely fashion and delivered to the plant of first-receipt. This can be performed by the cooperative’s own haulers, by contract haulers or by haulers retained by members. The cooperative may also be responsible for setting or negotiating hauling rates.
• Provide field services; cooperatives typically have field service personnel to assist with on-farm production problems and regulatory and inspection issues for the farm to achieve quality-milk production.
• Disseminate market information about the situation and outlook of the milk market; this is provided to members for use in making dairy farming business decisions.
• Other marketing-related services that help members deal with all the minutiae related to producing and marketing quality milk.

In addition, dairy farmers may ask their cooperative to leverage its group strength to procure various other services to help sustain their farming operations and farm life. Some of the services may include providing:
• Insurance products, such as disaster insurance for the...
farm, health and/or life insurance (for farmers and their families and farm employees) and farm workers’ compensation.

- Retirement programs.
- Risk management services to deal with market uncertainties.
- Farm business consulting services, such as farm expansion feasibility studies and business plans.
- Operating capital and facility capital financing.
- Financial planning services.
- Livestock marketing services (mainly for culled cows and calves).
- Other services that may help members’ farming operations.

**Organization**

Dairy cooperatives can be of any size (and can be local, regional or national in scope), depending on whatever scale the membership considers to be the most appropriate for marketing their milk.

A small local cooperative may have a few member-farms and market less than 1 million pounds of milk a year. A regional co-op may have hundreds or thousands of members in more than one state and handle millions, or even billions, of pounds of milk. The nation’s largest dairy cooperative has about 10,000 member-farms in all of the 48 contiguous states who deliver tens of billions of pounds of milk annually to their co-op.

All dairy cooperatives are known to be centralized organizations with direct membership. A limited number may have other dairy cooperatives as association members, but the practice is usually for accommodating the fact that the cooperative is the marketing agent of all or part of the milk, dairy products or services of these association members.

Dairy cooperatives operating in the same market may form marketing agencies in-common to rationalize milk hauling and shipment for reducing transportation costs, to share market information, or to collectively bargain with buyers for higher prices for milk or dairy products marketed.

**Governance**

Members of dairy cooperatives exercise ownership and business controls through a board of directors that is elected from among member-farmers. Candidates for the board are typically nominated by a committee of elected members who are not directors. Elections of the directors are usually done at the annual membership meeting.

If a cooperative is large, in terms of membership or geographical area, members may be grouped into districts (or areas/regions/divisions/locals). Directors then may be nominated from the district and elected at the cooperative’s annual meeting. Districts are usually drawn such that members in the same district are more or less homogeneous. Voting at the district level is typically by one member/one vote. The number of directors each district is entitled to may be different due to proportionality considerations based on milk volume. Some boards may have at-large members.

In a large cooperative, a delegate body elected by members may be needed to channel information and make decisions on behalf of the membership. The delegate body may be empowered to represent the membership in all decisions, except for matters that specifically require votes by the entire membership.

A limited number of dairy cooperatives have non-member directors, typically in the states where they are required by law. Non-member directors usually play an advisory, non-voting role on the board.

An executive committee of elected officers and selected board members may be constituted to facilitate decision-making when the board is not in session. The board may also appoint several committees to carry out specific board functions, such as audit, finance, membership and marketing committees.

The board controls the cooperative’s business on behalf of members and makes major decisions; it also sets the policy and determines the overall direction of the cooperative. Management carries out the co-op’s day-to-day operations. Another very important function of cooperative board members is serving as a conduit of communication between the management and the rank-and-file members.

**Operations**

Dairy cooperatives perform various marketing functions to carry out the most important task of providing an assured market for members’ milk. They may engage in one or more of these activities:

- **Bargaining** — Find a market for members’ milk and bargain/negotiate with milk buyers for milk prices and terms of trade.
- **Fluid processing** — Own or retain plant capacity to process some or all member milk into fluid products. Fluid plants may also process soft and cultured products.
- **Niche marketing** — Own or retain plant capacity to process some or all member milk into specialty (niche) products.
- **Making hard products** — Own or retain plant capacity to manufacture hard dairy products (such as cheese).

Manufacturing plants also provide a home for milk when it is in excess of market demand and transform the milk into storable products for further processing or later distribution.

Of the 155 U.S. dairy cooperatives, 108 may be classified as bargaining cooperatives because bargaining is their only, or main, marketing activity. Four co-ops are fluid processing operations that do business primarily in processing and distributing fluid products. Another 19 of these businesses are niche marketing cooperatives. The remaining 24 may be called diversified cooperatives, having bargaining and one or more processing/manufacturing functions as their main operations.

Besides assuring a market for members’ milk, dairy
Dairy cooperatives may also perform some or all of the other milk marketing functions listed in the mission and functions section above. In addition, they may procure farm supplies or provide other services for members.

Dairy cooperatives also provide services to milk buyers in accordance with the terms of trade negotiated, such as delivering milk on schedule, maintaining quality control and related laboratory services, preconditioning or standardizing milk and/or fulfilling full-supply contracts.

**Market performance**

A cooperative affords dairy farmers the organizational size that is necessary for exercising countervailing power to effectively bargain and deal with milk buyers and other market participants.

The dairy industry has evolved in a way that dairy cooperatives and processors have developed into what may be characterized as symbiotic relationships with a high degree of “division of labor.”

Because dairy cooperatives are organizations of farmers, they have the comparative advantages of working closely with members for assembling milk, providing field services and performing farm-related functions. It is these advantages that accord them the predominant market share at the first-handler level.

In addition to this dominance in milk procurement, co-ops have the responsibility of balancing milk supply. Many dairy cooperatives maintain plant capacity to manufacture reserve and surplus milk into storable products such as butter, milk powders and cheese. Consequently, they have major market shares of these hard products. Like a reservoir, these cooperative plants absorb milk in excess of demand and provide supplemental milk to the market when it is needed.

Many processors rely on dairy cooperatives for milk supplies that are tailored to their requirements for volume, quality, composition and delivery schedule. They tend to enter into what are called “full-supply contracts” with co-ops so that they can focus their attention on the sectors where they are dominant: making fluid, cultured and soft products (and lately cheese) and further processing and packaging dairy products for the consumer market. These sectors tend to be capital-, technology- and service-intensive and are exposed to high product and market risks.

Farmers, who are generally risk-averse and have many

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**Table 1 — Comparison of Theory and Dairy Cooperative Practice: What Cooperatives Are**

<table>
<thead>
<tr>
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<tbody>
<tr>
<td>Cooperative organizations represent the aggregates of economic units.</td>
<td>A dairy cooperative is the aggregate of dairy member-farms.</td>
</tr>
<tr>
<td>A cooperative is an agency owned and controlled by members through which they conduct their business.</td>
<td>A dairy cooperative is owned, controlled and used by members as the milk marketing arm of their dairy farming business.</td>
</tr>
<tr>
<td>Each member-farm fully retains its economic individuality and independence.</td>
<td>Member dairy farms are independent economic units, each making its own business decisions.</td>
</tr>
<tr>
<td>The board of directors is elected from among member-farmers.</td>
<td>Directors are members; they may have non-member directors who usually are non-voting advisors and may be mandated by state laws.</td>
</tr>
<tr>
<td>Proportionality and service at-cost are two basic principles.</td>
<td>These principles are applied in every facet of operations that relate to member business.</td>
</tr>
<tr>
<td>Members provide advances (i.e., equity capital) for financing the cooperative.</td>
<td>Almost all equities are member capital; ownership of a fraction (a portion of preferred stock) is not discernable from the financial statements.</td>
</tr>
<tr>
<td>Patronage refunds are returned to members who have been underpaid or overcharged.</td>
<td>Patronage refunds are net savings returned to members.</td>
</tr>
<tr>
<td>Dividend on capital, if any, is interest payment for using members’ capital.</td>
<td>Dividends, if paid, are usually on preferred stock, and typically at less than 8 percent.</td>
</tr>
<tr>
<td>Being an aggregate of member-farms, the cooperative is neither a horizontal integration of its members nor a vertical integration between the cooperative and its members. It is a third mode of organizing coordination.</td>
<td>There may be some degree of coordination among members as they voluntarily and collectively adapt to market situations. However, this is not the same as vertical or horizontal integration.</td>
</tr>
</tbody>
</table>
demands on their financial resources on the farm, probably prefer to stay out of these sectors rather than compete head-on with processors (their milk customers), as long as the market performs well and their farming business can be sustained.

Still, there are a substantial number of dairy cooperatives operating in these sectors, although as a whole their market share is not high. The upshot is that though dairy cooperatives are generally less active in these sectors, they have the size, organization and wherewithal to enter the market if the situation calls for it.

**Financing**

Based on the complete financial data of 94 dairy cooperatives for the fiscal year ending in 2007, total assets of these cooperatives were $12 billion (or $8.41 per hundredweight/cwt of milk). Current assets accounted for 60.4 percent ($7.3 billion or $5.08/cwt) and fixed and other assets accounted for the other 39.6 percent ($4.8 billion or $3.34/cwt). These 94 businesses represented 61 percent of all dairy cooperatives and marketed 142.9 billion pounds of milk, or 94 percent of cooperative milk volume (*Ling, table 12*).

Total liabilities of these co-ops were $8.7 billion. Of this amount, 72.3 percent were current liabilities ($6.3 billion or $4.40/cwt) while 27.7 percent ($2.4 billion or $1.69/cwt) were long-term debts. Equities, the balance of assets and liabilities, were $3.3 billion ($2.32/cwt).

Dairy cooperatives typically pay members for their milk twice a month. A large proportion of the current assets and the current liabilities are for such pending periodic cash payments to members.

This is a unique characteristic of the balance sheet of dairy cooperatives. Therefore, it is important to focus on the ratio of long-term debts to equity in evaluating financial strength, which was 72.6 percent for the 94 cooperatives.

Equities can be grouped into four categories: common stock, preferred stock, retained earnings and allocated equities.

**Common stock** — In 2007, common stock only accounted for 0.1 percent of total equities. This is because common stock of cooperatives is usually issued for witnessing membership and carries minimal nominal value.

**Preferred stock** — Preferred stock, as reported, was 7 percent of total equities. A substantial portion of the preferred stock was issued by some cooperatives to members for witnessing retained patronage refunds or for witnessing members’ additional investment in the cooperative and may be considered as allocated equities. It is not clear who holds the remaining preferred stock (probably representing less than 5 percent of total equities); the holders could be non-members as well as members.

**Retained earnings** — Retained earnings could be earnings derived from non-member businesses, but may also include allocated equities that some cooperatives choose not to separately specify in the financial reports, retained net savings that are going to be allocated later, or earnings that are difficult to attribute to specific member transactions.

Therefore, retained earnings that are not likely to be subject to allocations (or considered by some to be “permanent” equity) should be less than the reported 10.8 percent of total equities. In any case, retained earnings belong to the cooperative and therefore are owned by members.

In most cases, non-member businesses of dairy cooperatives are incidental to the dairy operation. These may include:

- Processing into storable products other firms’ surplus (distressed) milk that needs to find a home.
- Sales of goods sourced from other firms in dairy stores or other sales outlets.
- Sales of dairy or farm supplies that may include customers who are non-members.

In a limited number of cases, retained earnings are profits from investment activities that may or may not be related to the core business of serving members’ marketing and farming needs.

**Allocated equities** — The 94 cooperatives reported that 82.1 percent of their equities ($1.91/cwt) were allocated to members. Allocated equities are members’ capital from one or more of these sources:

**Retained patronage refunds** — Retained patronage refunds are net savings that are allocated to members based on patronage but are retained to finance the cooperative’s operations after a cash portion has been paid to members. Members must treat the entire patronage refund (retained as well as cash payment) as income for tax purposes. Cooperatives usually revolve retained patronage back to members after a certain period of time.

**Capital retains** — Some cooperatives use capital retains to finance the operations or, more often, for special projects such as building new plants. Money is withheld from milk payment at a certain rate per hundredweight of milk. Members must treat capital retains as income for tax purposes. Capital retains are also revolved back to members after a certain period of time.

**Base capital plan** — Some larger diversified dairy cooperatives have adopted base capital plans to establish a more stable equity pool. Under such a plan, a target base capital level is established at a rate per hundredweight of milk marketed during a representative period. The base capital may be funded by retained patronage and/or capital retains, or by other means of member contribution. Once a member attains the prescribed base capital level, future patronage earnings allocated to the member are paid in cash.

Members provide almost all equity capital. Counting common stock, preferred stock (that are issued to members), retained earnings and allocated equities, almost all equities (probably more than 95 percent) of dairy cooperatives are supplied and owned by members.
**Theory and reality fit**

Considering all of the above, it is clear that the economic structure and market performance of dairy cooperatives are in full accord with the economic theory of cooperation as expounded by Emelianoff and Nourse. Dairy cooperatives’ mission, functions, organization, governance, operations, market performance, financing, etc., all conform to the theoretical prescriptions, as tables 1 and 2 show. Cooperation as practiced by dairy farmers in marketing milk is an enduring business model that is in full agreement with the economic theory of what cooperatives are and what cooperatives do.

The dairy market has seen some extreme highs and lows in the past few years. While co-ops tend to be a stabilizing influence on ag markets, they cannot prevent such market shifts. Still, the cooperative form of a business remains the overwhelming choice of dairy farmers for marketing, processing and many related services.

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**Table 2 — Comparison of Theory and Dairy Cooperative Practice: What Cooperatives Do**

<table>
<thead>
<tr>
<th>Theory: Market Performance of Cooperatives</th>
<th>Market Performance of Dairy Cooperatives</th>
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<tbody>
<tr>
<td>Cooperatives are organized for efficiently carrying out specific business functions.</td>
<td>49,675 dairy farmers in 155 cooperatives marketed 83 percent of U.S. milk in 2007.</td>
</tr>
<tr>
<td>Cooperatives can be of any size (and can be local, regional or national in scope) that allows them to function efficiently in the marketplace.</td>
<td>The smallest local cooperative has a few members marketing less than 1 million pounds of milk per year; the largest one has about 10,000 members in the 48 contiguous states and markets tens of billions of pounds of milk.</td>
</tr>
<tr>
<td>Cooperatives afford farmers the organizational size for exercising countervailing power.</td>
<td>Dairy cooperatives may grow, or have grown, to the size necessary for effectively bargaining with milk buyers for better prices and terms of trade.</td>
</tr>
<tr>
<td>Cooperatives are pro-market; they let the market supply-and-demand price be the guidance for producers.</td>
<td>Dairy cooperatives and their member-farmers are subject to the disciplines of the market in a free economy.</td>
</tr>
<tr>
<td>Cooperatives are a means for farmers to promote and maintain competition; they serve as a “competitive yardstick.”</td>
<td>To be competitive, processors must match the effectiveness and efficiency of dairy cooperatives.</td>
</tr>
<tr>
<td>In those fields where the market has become truly competitive and farmers can be well served by other firms, cooperatives may want to cede the field and assume only a stand-by position (to preserve members’ capital, time and efforts for use on the farm), while maintaining the legal institutions and organizational capacity to step in if there is a relapse of market inadequacy.</td>
<td>Dairy cooperatives have comparative advantages in procuring milk and have major shares in making hard products (71 percent of butter, 96 percent of nonfat and skim milk powder, and 26 percent of cheese, although the latter decreased from 34 percent in 2002). Their shares are less significant in sectors that are capital-, technology- and service-intensive and that carry high product and market risks (7 percent of fluid milk, 4 percent of ice cream, 11 percent of yogurt, 14 percent of sour cream. Their share of cheese has also declined in recent years). However, dairy cooperatives have the wherewithal to take up the slack if the market fails to perform well.</td>
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**References**

Co-op Education
It’s Everybody’s Business

Co-ops 101: An Introduction to Cooperatives (CIR 55)
Probably the most-read co-op primer in the nation, this report provides a bird’s-eye view of the cooperative way of organizing and operating a business.

Do Yourself a Favor: JOIN a Co-op (CIR 54)
Perfect as a handout to the general public or for classroom visits, this 10-page brochure provides a succinct definition of what co-ops are and the benefits they offer to their owners. It discusses how benefits are proportional to the use of a co-op, and how co-ops differ from nonprofits.

Understanding Capper-Volstead (CIR-35)
The Capper-Volstead Act is the legal foundation of the American farmer marketing cooperative movement. This brochure is required reading for many co-op boards and is beneficial for all co-op members who seek a better understanding of the legal underpinnings of farmer co-ops.

Co-op Directors: Asking Necessary Questions (CIR.62)
Cooperative directors, especially those with limited business experience, may find themselves in a quandary as to what to ask managers, staff, auditors, other directors and other outside resources about the status of their cooperative. This report guides directors in asking the necessary questions to invoke informative responses.

How to Start a Cooperative (CIR 7)
This guide outlines the process of organizing and financing a cooperative business. This publication represents the most important elements to consider when forming a cooperative. It lists what special expertise is necessary and where to look for help. Note: You may also request the condensed, 4-page version: CIR 45, Section 14.

The Circle of Responsibilities for Co-op Board Members (CIR 61)
All boards of directors are under increasing pressure to perform well and justify their decisions. Cooperative boards are no exception. This series of articles, originally printed in USDA’s Rural Cooperatives magazine, lays out fundamental guidelines for cooperative directors to follow.
Whether for explaining basic co-op concepts to prospective members of a new or existing co-op, to help co-op board members better understand their responsibilities, as a hand-out at a co-op meeting or for classroom use, these publications can help. More than 100 other co-op publications are also available from the Cooperative Programs of USDA Rural Development: the nation’s No. 1 source of co-op education materials. Our mission is to help increase understanding and use of the cooperative, producer- and user-owned form of business.

All publications are free and can be ordered by sending an e-mail to: coopinfo@wdc.usda.gov, or by calling 202-720-7395. They are also available on the Internet at: www.rurdev.usda.gov/rbs/pub/newpub.htm.

**Director Liability in Cooperatives (CIR 34)**
This study surveys and discusses sources of liability faced by cooperative directors and suggests practices and behavior that may help avoid liability risks. The common law sources of liability are described.

**Co-ops in Agribusiness (CIR 35)**
This report provides a brief history of cooperatives and discusses their relationship with agribusiness. Different types of cooperatives and their structural and organizational characteristics are discussed, as well as how they are governed and financed.

**Sample Policies for Cooperatives (CIR 39)**
Policies help cooperatives attain established goals and objectives. This booklet provides directors and managers of farmer cooperatives with guidelines for writing, adopting and implementing policies.

**Sample Legal Documents for Cooperatives (CIR 40)**
A cooperative must have a set of organizational documents that is uniquely crafted to its particular situation. This report will assist persons organizing new cooperatives, managers and directors of existing cooperatives and their professional advisers to develop and update the important legal documents of cooperatives.

**Co-ops: What They Are and the Roles of Members, Directors, Managers and Employees (CIR 11)**
This educational guide explains what cooperatives are and examines the responsibilities and roles of cooperative members, directors, managers and employees. It is frequently used as a teaching tool, both in classrooms and co-op settings. PowerPoint slides are also available from USDA.

**Shared Services Cooperatives (CIR 19)**
This brochure explains that the goal of shared services cooperatives is to buy or provide products and/or services for their members at a total cost less than the combined costs of individual members buying or providing for themselves.
Editor's note: This article is adapted from a new report produced by the California Center for Cooperative Development: Challenges and Opportunities for California's Dairy Economy, available for download at: http://cccd.coop/events/DairyOpportunities.

Dairy producers nationwide faced a major economic crisis from mid 2008 through 2009 as on-farm milk prices plunged below production costs. Operating at a net loss drained farm equity from tens of thousands of dairy farms. Many farms were pushed into foreclosure.

Since early 2010, milk prices have generally stayed close to producers’ break-even point, but there has been little chance for a recovery of the massive losses suffered. While milk prices may enjoy modest growth in 2011, the medium-term outlook is still uncertain. During the past 15 years, there have been five national boom-bust cycles in milk prices, each of increasing severity. Further, the fundamental causes of this cyclical volatility have not been resolved by the industry, nor by public policy.

In order to address the ongoing challenges faced by America’s dairies and the rural economies that depend upon them, the California Center for Cooperatives conducted a study on the outlook for California dairy co-ops.
Cooperative Development (CCCD) embarked on a research and outreach project to examine causes and solutions for some of the long-standing economic challenges facing dairy producers. The project was funded with a Rural Business Enterprise Grant from USDA Rural Development, awarded to the Center in 2009.

Although CCCD’s work focused on California, many of the findings apply to the entire U.S. dairy sector. By interviewing stakeholders throughout the dairy economy and reviewing reams of literature, CCCD staff identified a variety of subjects for further investigation.

Supply/demand balance
There is a seasonal imbalance in the supply/demand situation for milk, a perishable product. There tends to be too much milk in the summer and too little in the winter. Therefore, this seasonal oversupply of milk is manufactured into various less-perishable dairy products, particularly butter and milk powders.

However, these products are less valuable than processed fluid milk and return substantially lower profits to dairies producing milk for those uses. To equalize profitability among producers of milk sold for the fluid market and producers of milk used for other dairy products, California uses a Milk Marketing Order to create a single statewide pool of prices paid by processors to producers. Producers in the pool then enjoy the same price for their milk, irrespective of the end-use of the milk each producer has supplied.

In past decades, USDA has also purchased large volumes of lower value dairy products (including milk powders and butter) to support the national price of milk. California became the largest milk-producing state in the nation, in part, by building much of its dairy industry to supply the federal program. Therefore, state milk pooling — exacerbated by a major market intervention — has had the unintended consequence of incentivizing the over-production of both lower value dairy products and the milk supply used to create them. That infrastructure has remained in place long after federal price-support levels were greatly reduced in the late 1980s, which removed a major support for the state’s total milk pool.

California’s dairy cooperatives account for a large share of the nation’s manufacture of these products. These same dairy products also make up most of U.S. dairy exports, and so are more vulnerable to the higher volatility of global markets than is domestically consumed fluid milk.

Besides the need to manage the state’s milk supply, several other areas for reform and improvement have been identified by dairy industry experts and stakeholders in recent years. The California Milk Advisory Board commissioned consultants McKinsey and Company in 2007 to conduct a widely disseminated study of the California dairy industry. Currently, a package of fundamental industry reforms, “Foundation for the Future,” is being promoted by the National Milk Producers Federation (NMPF), a trade association representing the majority of America’s dairy marketing cooperatives.

Supply management efforts
Supply management programs encompass a wide variety of possible methods and stakeholder roles aimed at reducing the amount of surplus milk on the domestic market. Although individual dairy cooperatives instituted caps on the amount of milk they would accept from their members in the most recent dairy crisis, those reductions were not large or coordinated enough to sufficiently impact nationwide milk supplies, which would probably require a nationwide program including all, or most, U.S. producers.

The most recent large-scale effort to reduce national milk supply has been NMPF’s Cooperatives Working Together (CWT) program, which collects a 10-cent per hundredweight assessment from its producer-members, who collectively represent two-thirds of the U.S. milk supply. From 2004 to 2010, CWT operated a herd retirement program, which bought out some of its members’ entire dairy herds and sent them to slaughter, thus reducing the national milk supply.

A NMPF-commissioned study of the program found that it had increased milk prices by many times over its initial cost, until reaching a point of diminishing returns in 2010. The second function of CWT is its still-active Export Assistance Program, which subsidizes exports of dairy products. One of the program’s main goals is to stabilize the volume of U.S. dairy exports, which some believe has otherwise been so sensitive to price as to disrupt sustainable trade channels.

Indeed, NMPF points to this disruption of exports as a prime factor...
in the 2009 dairy crisis. When the willingness of global dairy importers to pay for dairy products fell in the global recession, major exporters, including New Zealand and Australia, reacted by dropping prices. Essentially, the Export Assistance Program succeeds when the cost of short-term export incentives are exceeded by the value of the long-term trade channels they maintain.

However, “supply management” has been more closely associated in the dairy industry with several proposed programs that would use various mechanisms to establish a limit for producers’ milk production. The essential idea of these plans is to provide incentives for producers to keep their milk production within the amount of supply that is expected to return an acceptable profit margin to all producers. There remain, however, significant practical and ideological concerns about these kinds of supply management programs.

**Price-risk management strategies**

Price-risk management (PRM) strategies allow dairy producers to moderate the volatility of their milk and/or feed prices by paying some sort of service cost to a third party in order to limit their exposure to the risk of unfavorable price changes. Although producers hate having to forego some of the value of unexpectedly high milk prices (or low feed prices), many have found it worthwhile to do so if it protects them from the perils of price volatility: disrupted production plans, dangerous financial squeezes and wasted management resources.

Purely market-based PRM strategies include locking-in prices through forward contracts or hedging price risk through futures contracts or options. These tools incur brokerage fees and other transaction costs. They are available through commodities brokerages and some dairy cooperatives, which operate these PRM tools as a member service.

Forward contracts and futures have been widely used by producers of grains and other commodities for more than a century, but have not been as widely adopted by dairy producers. However, the continuously increasing volatility of milk and feed prices has led some agricultural lenders to ask, or even require, their producer-borrowers to manage long-term profitability through PRM tools.

Besides a general tolerance for risk and initial unfamiliarity with PRM tools, dairy producers have been dissuaded from using the PRM tools described above for a variety of practical reasons. However, many of these issues are specifically addressed through the USDA Risk Management Agency’s Livestock Gross Margin-Dairy (LGM-D) insurance program. Made available nationally last year, LGM-D is being promoted as a means to address some of producers’ issues in using other PRM tools.

The volume of milk insured under the program tripled last year. In February, an additional $15 million was made available to fund the program. Lastly, the National Milk Producers Federation’s “Foundation for the Future” reform proposals include another federally implemented PRM program designed to complement LGM-D.

**Finding value in wastes**

Dairy biogas systems process manure into energy (usually natural gas or electricity) and other products, such as compost and liquid fertilizer. Many public organizations and private businesses throughout the nation support and service the dairy biogas sector, including some federal financing programs.

However, the adoption of dairy biogas systems by producers has been hampered by problematic regulations, lack of access to capital, disparate technical information and difficulties in securing financial arrangements and physical inter-connections with energy utilities.

Developing dairy biogas systems that incorporate waste sources from outside of the system owner’s dairy can achieve beneficial economies of scale, but these “co-digestion” facilities face challenges regarding particular environmental regulations and operational constraints.

Nonetheless, the success of certain dairy biogas systems throughout the nation proves that this sector has the potential to reduce environmental impacts while generating energy and/or income for dairies. Use of the cooperative business model and other forms of collaboration have achieved many different kinds of economies of scale in dairy biogas systems, and might do so further.

This developing sector could bridge the needs of producers, regulators, environmentalists and the public good. If so, it will require consistent public financing, improved access to information, effective financial and legal model agreements, streamlining of regulations to maximize net environmental benefit, political support from the general public and further collaboration among stakeholders.

**Role of cooperatives**

Dairy cooperatives are a major player in California’s dairy industry, as they are nationally. Their role in aggregating producers’ bargaining power with processors and in processing members’ milk themselves has long been important to producers’ profitability. In California, cooperatives such as California Dairies Inc., Dairy Farmers of America and Land O’ Lakes all have substantial membership, processing facilities and economic impact.

As the agribusiness and food industries have continued to consolidate over the past decades, dairy cooperatives have merged, grown and adapted their business strategies to keep pace with their peers. In doing so, however, they have risked losing their distinction from proprietary businesses, as perceived by some of their members, antitrust regulators and other dairy stakeholders.

Relations between dairy cooperatives and their members can sometimes be adversely affected both by food sector continued on page 32
Editor’s note: Bill Davisson is the recently retired CEO of GROWMARK Inc.

By Bill Davisson

Edie’s note: Bill Davisson is the recently retired CEO of GROWMARK Inc. was asked to discuss the differences between managing a co-op and an investor-owned company, from the vantage point of my 40-year career with GROWMARK Inc., including the last 12 serving as the co-op’s chief executive officer.

While I have not had any experience in managing in a publicly traded corporation, I do serve as a director of one, which gives me some insight into the differences and similarities between cooperatives and their publicly traded counterparts.

Both types of entities are in business to make money and provide a return to the owner. Both understand it is all about the customer, and if you don’t have the right product or service at the right price, at the right time, they are likely to take their business elsewhere.

One often hears that cooperatives are in business to provide an assured source of supply or an assured market for products — but not at any price or any cost. Both types of entities evaluate the market and attempt to sell their products and services at a price that will cover costs and provide a return to the shareholder.

Both cooperatives and publicly traded companies understand the importance of communication, ethics and disclosure to the shareholder. Publicly traded entities are somewhat more formal in their disclosure because of Securities and Exchange Commission requirements. But each type of business is required to have a formal audit performed annually, with related disclosures under generally accepted auditing standards.

Each type of business spends a great deal of time and effort on making sure their financials are accurate and transparent to the shareholder. Cooperatives are required to have a formal audit performed annually, with related disclosures under generally accepted auditing standards.

Management Tip

How managing a co-op differs from running an investor-owned firm

Davisson oversaw major expansion of co-op

When Bill Davisson joined FS Services Inc. in 1970 as a newly minted University of Iowa graduate, he had no idea where his career path would take him. During the next 40 years, Davisson held positions with GROWMARK that included transportation accountant at the Kingston Mines (Illinois) terminal, financial analyst, controller, vice president of finance and vice president of member services before being named CEO in 1998. He earned his CPA designation in 1985.

In his 12 years as CEO, Davisson oversaw the expansion and development of GROWMARK from a three-state organization to an expansive system doing business in 23 states and Ontario, Canada. Sales have grown to $6 billion, with $70 million in patronage returned to members in 2010.

Co-op leaders say the growth and expansion of the GROWMARK system has been fueled by Davison’s vision for growing from the cooperative’s core businesses, as well as pursuing mergers, acquisitions and joint ventures. These two strategic directions have enhanced the co-op’s energy, agronomy and grain businesses.

Davison also focused on creating a strong member system. During the last six years of his tenure as CEO, the GROWMARK system achieved its six highest years of profitability. Through patronage, partnership and participation, the current strength of the system is a large part of his legacy.

He served on several boards of directors, including National Cooperative Refinery Association, MaltaCleyton, MID-CO COMMODITIES INC., GROWMARK FS LLC and Seedway LLC. He will continue to serve on the board of CF Industries Holdings Inc.

Davison also served on the board of trustees and executive committee of the Graduate Institute of Cooperative Leadership. He was a member of the National Council of Farmer Cooperatives executive council, which he chaired for two years.

Bill Davisson

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By Nancy Feeney

Editor’s note: this article is reprinted from Dairyman magazine, the member publication of Swiss Valley Farms, a dairy cooperative based in Davenport, Iowa. Nancy Feeney is editor and member relations manager for Swiss Valley Farms.

When Swiss Valley Farms purchased The Caves of Faribault in August [2010], all of the co-op’s dairy producer members acquired a piece of American cheesemaking history. Jeff Jirik, the former owner of Faribault Dairy, and now vice president of the co-op’s Blue Cheese Division, proudly recounts a rich history embedded deep within the caves’ sandstone walls.

The history of the caves begins in 1854, when Gottfried Fleckenstein, a German immigrant on a brief boat trip stopover in Faribault, Minn., discovered natural St. Peter sandstone caves along the Straight River. Carved out of the sandstone by the receding glaciers thousands of years ago, the caves extended back into the bluffs.

Fleckenstein knew they would be the perfect place for brewing and storing beer. He never got back on the boat! He opened a German brewery inside the caves and became a prosperous Faribault resident.

In 1936, the caves were taken over by Felix Frederickson and soon became the site of the first blue cheese plant in America. Frederickson enlarged the main cave and began making cave-aged blue cheese.

St. Peter sandstone, found only in Minnesota, Iowa, Illinois and northern Missouri, is ideally suited for aging cheeses because of its slightly acidic nature, architectural integrity, the perfect humidity and temperature conditions (53 degrees year around), and the unique properties that allow water to move both vertically and horizontally, never dripping.

In 1938, entirely new caves were hand hewn from the sandstone rock to accommodate expansion for cheese curing.

Down through the decades, the caves changed hands a few more times, until Faribault Dairy took ownership of the caves in 2001. It continued the legend by manufacturing and curing America’s original blue cheese.

“We named our blue cheese AmaBlu,” Jirik says. “‘Ama,’ which is Latin for ‘I love,’ and ‘blu,’ which stands for the cheese variation we make.”
Today, the caves are part of Swiss Valley’s history. There are 13 caves used to cure more than 1 million pounds of award-winning American Blue and Gorgonzola cheeses, among other varieties.

Just across from the caves sits the cheese plant, where cheesemakers faithfully follow Frederickson’s original recipe, crafting the cheeses by hand using no artificial ingredients, then hand-salting them before they make their way into the caves.

It is the time spent in the caves that determines the cheeses’ flavor profile. AmaBlu blue cheese is aged 75 days to create a tangy, yet not-too-sharp flavor. Its cohort, AmaGorg Gorgonzola cheese, is aged 90 days and displays more sharpness, in addition to being sweeter and drier than the blue cheese. AmaBlu St. Pete’s Select Blue Cheese is a premium variety of blue cheese, aged more than 100 days in the caves it was named after. It exhibits a creamy, complex flavor worthy of its signature status.

Faribault Dairy remains the only U.S. cheesemaker to still cure and age its blue cheese exclusively in rock caves. Jirik never tires of describing what it is like to walk into a cave where the blue cheeses are curing.

“The cave-aged, ‘naked cheeses’ evoke the aroma of a freshly tilled garden in spring,” he says. “The sweet fragrance of butterfat breaking down into floral notes permeates the air.”

With such pride and enthusiasm for his cave-aged blue cheeses, it is no surprise Deli Business magazine called Jirik the most innovative cheesemaker in America. This year, he won a best of class award for his Gorgonzola at the World Championship Cheese Contest.

Not to be forgotten is another cave located just up the street from the plant. Although it’s not made of sandstone, it plays just as valuable a role as the real caves themselves. The Cheese Cave, created in 2009 by Jirik with business associates Jeff LaBeau and Bob Foley, is the retail outlet for the cheeses from The Caves of Faribault, and a mecca for cheese lovers and culinary connoisseurs.

The quaint store located in the downtown Faribault shopping district carries specialty cheeses, dry goods and spreads and is always bustling with tastings, cooking demonstrations and other gourmet events. A small vat of fresh cheese curds is made there twice a week. It also markets over the Internet.

New study gauges outlook for California dairy co-ops
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...dynamics beyond the co-ops’ control and by the particular business practices of each co-op. Members, directors and management all have their own positions and responsibilities which should be mutually understood if the cooperative is to remain a cohesive and effective organization.

There are other dairy cooperatives that differ markedly from the three co-ops mentioned above. CROPP/Organic Valley — a marketing-only co-op — differs in that it typically does not invest in processing capacity and emphasizes returning value to members in the form of higher regular pay prices, instead of year-end patronage refunds.

Fonterra Co-operative Group has leveraged New Zealand’s unmatched advantage in low-cost milk production into dominance in the global dairy trade through strong emphasis on product innovation, adaptation to local markets and extensive collaborations with other dairy firms, including several in the United States.

Value-added opportunities
Value-added opportunities for the California dairy industry are an important topic for large cooperative processors in expanding their product mixes into new product categories, such as probiotics and pharmaceutical ingredients, and adapting to national demographics and lifestyle trends. However, producers working as individuals or in small-group collaborations also have opportunities to develop value-added products from their own milk supply, and thus diversify their revenue streams away from the volatility of commodity milk markets.

Strong consumer interest in local foods has created opportunities for such products and in marketing channels that connect consumers to producers and processors within a region. In particular, specialty cheese has enjoyed substantial research and development supports in California, which has been building a national presence in this product category in recent years.

However, prospective new entrants to California’s specialty cheese sector face significant challenges. These challenges include:
• Generally higher costs of doing business, compared to other states;
• Distance from out-of-state domestic markets;
• A highly competitive cheese market, in which foreign imports are a factor;
• Fewer resources supporting the sector than in other major specialty cheese states;
• Economies of scale that may require large size operations.

The last two challenges could be met by specialty dairy businesses sharing resources in training, trial-run production, promotion, sales and/or manufacturing. While these collaborative functions have been explored in a variety of ways in the state, their further development could be a major asset for new small specialty dairy businesses.

As part of its research, CCCD conducted a survey that explored challenges and opportunities in value-added dairy product markets. It targeted prospective and current specialty dairy businesses, including processors, producers and others. The survey found that financing was lacking among prospective new businesses. This situation could be addressed by improved access to traditional USDA funding.

Other financing solutions may be offered by innovative hybrid business models, such as the L3C (low-profit, limited liability company) model or through use of mission-based venture capital. These business models are intended to provide profits while also serving a public good by helping to preserve family dairies and local food systems.

Some support was found among survey respondents for business incubation models, such as the shared use of a mobile processing facility or arranging the use of excess dairy processing capacity.

Of the dairy products considered in this survey, specialty cheeses enjoyed both the most knowledge and interest among respondents. Organic producers expressed strong interest in developing dedicated processing capacity for organic fluid milk and cheese. They showed less interest in other emerging product categories, with middling interest in sharing promotional efforts.

Overall, California’s dairy industry maintains strength in its competitive cost of milk production, economies of size and general quality of infrastructure. The recent dairy price crisis and ongoing concerns about producer profitability underscore that individual producers, as do producers nationally, face important decisions.

National milk supply management programs probably could stabilize the industry against future milk price volatility, but would require broad industry consensus and careful implementation. Various price risk management strategies are available to producers but are probably underutilized. Newer programs, such as USDA’s Livestock Gross Margin-Dairy insurance program, deserve continued attention.

In California, the costs of meeting the state’s substantial environmental regulations are not likely to lessen in the future, but may be addressed in part by creative, effective implementation of dairy biogas systems. While some of these efforts are beyond the direct control of individual producers, they can still make themselves heard through their representation in trade associations and their cooperatives.

Lastly, policymakers and staff at state and federal public agencies have various capacities to assist the dairy industry in all of the major subject areas described above. With this support, and with consensus within the industry on its needs and goals, California can overcome the substantial challenges facing it and expand upon its decades of success in feeding the world and our nation’s economy.
Why do co-op boards sometimes micromanage?

By Jean Freeman, President
Jean Freeman & Associates, LLC

Editor’s note: The author is a Fairfax, Va.-based consultant who has experience working with cooperatives and nonprofits on governance and other issues.

If you’ve ever served on a board of directors or worked for a cooperative with a board of directors, you have probably noticed there are times when board members tend to move away from the lofty role of oversight and into the operational side of the organization. It happens. But why?

I believe one key reason is that the generous volunteers who agree to serve on a co-op board often come from successfully managing a farm or other business. These board candidates are often identified because of their success in business. They may have gone to school to learn how to operate a business and they have likely spent years honing those management skills.

But very few of us ever get any formal education in the art of governance. Even when someone is elected or appointed to a board, he or she is not likely to receive adequate training in board governance. Most of us have learned good governance through trial and error, and reading the occasional book on the topic.

A board member’s “comfort zone” usually lies within the world of operations and administration. A friend of mine who has served on a cooperative board for a few years, recently said: “Ask me to discuss the merits of purchasing a new digital copier and I can weigh in pretty quickly. But if you expect me to engage in a meaningful discussion about changing the organization’s mission, I’ll have to get outside of my comfort zone and think strategically. I certainly can’t rely on my past experiences. It’s tough work!”

Another reason board members micromanage could be that governance requires, by its very nature, a long-range focus. Operational issues are frequently resolved quickly and results can be realized right away.

But strategic issues can only be realized over time. Most strategic plans are designed to be measured over two, three or more years. There just isn’t the immediate gratification we desire.

There are two extremes every board must avoid becoming: (1) The Rubber Stamp Board and (2) The Managing Board. If a CEO is unsure of his or her actions and frequently brings operational issues to the board table for affirmation, the board might find itself “forced” into managing. The opposite can occur when a CEO moves beyond management and begins to direct the organization, taking on the role of the board. At this point, some boards — unsure of their own role — begin to put their stamp of approval on whatever is brought to the table by the CEO. Obviously, neither of these extremes is going to be in the best interest of the co-op.

A board is micromanaging if it:
• Approves individual salaries;
• Is present for staff meetings;
• Approves the organization’s monthly checks (quite common!);
• Decides which vendor to use;
• Contacts staff members for information (when not specifically asked to do so) or “pumps” the staff for an assessment of the CEO’s effectiveness.

These are just a few examples. Do any of them sound familiar?

So, what can go wrong if the co-op board engages in micromanaging, or managing at all?

One pitfall is that board members will use up valuable time and energy on management and not have enough left to do the critical job of governing. In terms of time, if your board meets for three hours each month, that’s a total of 36 hours for the entire year. If even a few hours are misspent, there aren’t many left to do the lofty work a co-op board must do for its members.

A CEO who recognizes this kind of overstepping should discuss it with the board chair in hopes that, together, a solution will be found. If you are a board member and some of this sounds familiar, it’s time to bring the topic of board/staff roles to the table. It is helpful if board and staff are regularly reminded of their roles and how to effectively communicate with one another.
Clinton presents PCCA subsidiary with ACE Award

Plains Cotton Cooperative Association’s (PCCA) Denimatrix subsidiary has received the U.S. State Department’s prestigious 2010 Award for Corporate Excellence (ACE) in the small-to-medium enterprise category. The award was presented by U.S. Secretary of State Hillary Rodham Clinton to PCCA President and CEO Wally Darnelle at a ceremony in Washington, D.C.

Denimatrix, located in Guatemala City, Guatemala, is PCCA’s denim apparel production company. Founded in 2009, it has the capacity to produce about 150,000 pairs of high-fashion denim jeans per week. It is part of PCCA’s vertically integrated “from field to fashion” business model, which also includes the American Cotton Growers denim mill in Littlefield, Texas.

The award recognizes Denimatrix for contributing to the development of the local economy, for reaching out to the community to help disadvantaged youth and the homeless in Guatemala City and for environmental stewardship.

The ACE award was established in 1999 to recognize the important role U.S. companies play abroad as good corporate citizens. The award also is a signal of the State Department’s commitment to further corporate social responsibility, innovation, exemplary practices and democratic values worldwide. Past recipients of the ACE award include Cargill, General Motors, Motorola, Chevron/Texaco and Ford Motor Co.

Denimatrix was nominated by U.S. Ambassador to Guatemala Stephen McFarland. A record 78 American companies doing business in other countries were nominated by U.S. Ambassadors around the world. Denimatrix was one of 12 finalists.

“By providing a stable and desirable workplace, we can attract employees whose productivity will make them competitive in a global economy,” Darnelle said. “This award means a great deal to us about the future as well as the past. It is a recognition of the dedication of several generations of PCCA stockholders to doing the right thing for present and future generations.”

Headquartered in Lubbock, Texas, PCCA is the largest originator of U.S. cotton for textile mills around the world.

CHS returns $231 million to owners; Building shuttle-train loading elevators

CHS Inc. owners in all 50 states will share in an estimated $231 million disbursement during 2011 as a result of the energy- and grain-based food company’s strong fiscal 2010 earnings. The distribution maintains a period of five consecutive years of significant cash returns to owners. Since its creation in 1998, CHS has returned more than $2 billion in cash to its agricultural producer and member cooperative owners.

The $141 million distribution to
member-owners consisted of cash patronage paid on fiscal 2010 business and retirement of previously earned CHS equity. Additional retirements of equity and dividends paid on preferred stock made throughout the year are expected to bring fiscal 2011 cash return total to about $231 million.

“In making this distribution, CHS has demonstrated one of the most important ways we can deliver on our mission of adding value for all of our stakeholders,” says Michael Toelle, CHS board chairman and a Browns Valley, Minn., farmer. “Strong financial performance also allows CHS to meet our member-owners’ needs on a daily basis and to fulfill a long-term strategic direction as a successful energy- and grain-based foods company.”

CHS net income for its fiscal year ending Aug. 31, 2010, was $502.2 million.

During 2011, distributions are being made to nearly 1,100 member companies and more than 45,000 individuals and other businesses. Patronage is based on business done with CHS by member cooperatives and individual farmers and ranchers during fiscal 2010, while equity redemptions and preferred stock distributions represent retirement of ownership in CHS earned in past years.

In other CHS news, the has co-op announced its intent to join with some local grain partners to build state-of-the-art shuttle train loading elevators in Montana, Nebraska and North Dakota. Work is to be completed during the next 12 to 18 months.

“The CHS commitment to growers includes endeavors like this, where we reinvest back into our communities,” says John McEnroe, senior vice president for the Country Operations division of CHS. “It’s a very tangible way CHS returns value to its member-owners,” he adds.

CHS Country Operations has a preliminary agreement for construction in place with Farmers Union Elevator Co., New Salem, N.D. There is also an agreement between All Points Cooperative, Gothenburg, Neb.; Farmers Cooperative Grain Co., Merna, Neb.; and the CHS Agri-Service Center, Holdrege, Neb., for a facility in the Custer County area. In addition, CHS has expansion plans to accommodate 110-car trains at its Kershaw, Mont., location as well as its facility in Lakota, N.D., operating under Lake Region Grain.

All facilities will be located on a BNSF rail line. Construction could start as early as May 2011, CHS reports.

**Wickham to lead NCFC**

Gregory Wickham, CEO of Dairylea Cooperative Inc., was recently selected chairman of the National Council of Farmer Cooperatives at its 82nd annual meeting in San Antonio, Texas. He had been NCFC vice chairman and was a board member for five years. Succeeding Wickham as vice chairman is Bob Engel, president and CEO of CoBank.

Wickham and Engel will lead a board comprised of 22 presidents and CEOs from cooperatives across the country as they strive to “to tell the story of farmer cooperatives and ensure that the interests of all co-op member-owners are protected.”

“I learned at a young age the value of farmers working together, and I am excited to have a role doing so through NCFC,” Wickham says.


Wickham acknowledges the importance of agricultural cooperatives, both to their farmers and to their respective industries. Dairylea has worked closely with NCFC over the years, “to grow success and support of cooperatives across the country,” he notes. In 1929, when Dairylea was still called the Dairymen’s League, several cooperative employees were instrumental in helping to from NCFC.

“Greg brings experience, knowledge and leadership to NCFC, all of which will be valuable as we seek to continue to tell the co-op story to policymakers, opinion leaders and the American public,” NCFC President and CEO Chuck Conner says.

Wickham received a degree in ag economics from Cornell University and earned his MBA in ag economics from the University of Hartford.

**CoBank earnings climb 8.6 percent**

CoBank, a leading cooperative bank serving agribusinesses and rural infrastructure providers throughout the United States, has reported record high earnings and net interest income. Its loan quality also continued to improve throughout the year, the bank reported.

“Despite an economic environment that remains challenging and highly volatile, the bank continued to serve as a dependable source of credit for vital industries across rural America,” says Robert B. Engel, president and chief executive officer.

Net income was a record $613.8 million, up 8.6 percent from $565.4 million in 2009. Net income reflected the benefit of refunds of Farm Credit insurance premiums paid in prior years,
a lower premium in the current year, a lower provision for loan losses and greater fee income. Those positive earnings drivers were partially offset by impairment losses in the bank’s investment portfolio and some other factors.

Average loan volume during 2010 was $45.5 billion, up 2.3 percent from the prior year. A key driver was higher seasonal financing requirements from agribusiness customers due to the sharp increase in prices for grains and other agricultural commodities that occurred in the latter part of 2010. The bank also increased its lending to rural electric distribution cooperatives around the country. Those increases were partially offset by lower levels of borrowing from customers in the rural communications industry, where overall demand for debt capital remained weak.

Average loans to other banks and associations in the Farm Credit System were essentially unchanged, reflecting relatively flat loan demand at the producer level of the U.S. farm economy. Total loan volume for the bank at Dec. 31, 2010, was $50 billion, compared with $44.2 billion at the end of 2009.

Net interest income for CoBank rose 0.5 percent, to $950.8 million, up from $946 million in 2009. Engel noted that CoBank has returned more than $1.3 billion in patronage to customer-owners around the country during the past five years.

New Zealand co-ops aiding earthquake victims

Co-ops have been rallying to offer support following the Feb. 22 earthquake that devastated Christchurch, New Zealand. As of early March, the death toll stood at 166, but many people were still missing and feared dead. Ramsey Margolis, executive director of the New Zealand Cooperatives Association, says some co-ops were also directly impacted by the earthquake.

To help concerned co-ops at home and around the world follow the situation, he has created a blog at: www.s.coop/nzquake. A couple of recent postings (as of early March) included:

March 4 — “Silver Fern Farms announced that it will be making donations based on all sheep, beef and deer processed during the week of March 14 to the New Zealand Red Cross 2011 Earthquake Appeal. The cooperative had already put in place a number of initiatives to support the relief effort in the wake of the tragedy, including providing access to fresh water and equipment from its processing sites, as well as donating meat supplies to the Farmy Army and the Salvation Army.

Chief Executive Keith Cooper said that the cooperative had been overwhelmed by messages of concern from its members and wanted to step up the company’s response on their behalf. In addition, Silver Fern Farms has received commitment from offshore customers to match the company’s contributions.

March 3 — “No one was hurt at either the CRT Cooperative Farm Centre on Waterloo Road, Christchurch, or in its offices in Sir William Pickering Drive. But the offices had a good shake,” General Manager/Marketing Nigel Riley reports, “Ceiling panels fell down, everything was all over the place upstairs at Sir William Pickering Drive. It looked like someone had thrown a hand grenade and shut the door.”

LO’L sales second best in its 90 years

Land O’ Lakes Inc. (LO’L) reported the second-highest net sales and earnings in its 90-year history, despite challenging economic conditions. More than 1,000 cooperative members and visitors who gathered in Minneapolis for the co-op’s annual meeting were told that the co-op:

• Returned a record $125 million in cash to members;
• Had net sales of $11.1 billion (up 7 percent from 2010) and net earnings of $178 million (down from 2009’s record $209 million);
• Saw a reduction of 11 percent in its debt;
• Strengthened the LO’L market presence in nearly all of its key business segments.

Co-op president and CEO Chris Policinski pointed to several factors that drove performance in 2010: the strength of Land O’Lakes brands; solid performance by new, innovative products; a continued focus on operating efficiency and risk management; and the “disciplined pursuit of strategic growth initiatives.”

The co-op improved its market position in branded butter, deli cheese, seeds, crop protection products, young animal milk replacers, premium lifestyle feed and value-added livestock feed.

LO’L’s dairy foods business generated pretax earnings of $50.3 million, compared to $61 million in 2009. Dairy foods sales were $3.7 billion, up from $3.2 billion in 2009, helped by higher sales volume for the co-op’s flagship branded butter.

LO’L’s feed business reported $22.1 million in 2010 pretax earnings, compared to $29.8 million in 2009. Feed sales were $3.3 billion, down only slightly. Volume was down significantly in the livestock segment, while relatively flat in the co-op’s Lifestyle, Milk Replacers and Feed Ingredients segments.

The company’s crop inputs business — Winfield Solutions LLC — reported
$144.8 million in pretax earnings, up from $136.8 million in 2009. Crop input sales hit $3.7 billion, well up from $3.3 billion in 2009. Sales volume was strong across-the-board, especially for crop protection products and nearly all seed categories.

Gray to lead SRSA

Thomas W. Gray, Ph.D., a rural sociologist with the Cooperative Programs office of USDA Rural Development, was installed as president of the Southern Rural Sociology Association (SRSA) in February at the association’s annual meeting in Corpus Christi, Texas.

SRSA is a professional social science association oriented to enhancing the viability and quality of rural life, communities and the environment in the South and to encourage similar work nationally. In addition to work of its own academic discipline, the organization’s approach to rural sociology also encompasses other social sciences and includes practitioners at the university, community and government levels.

“Social justice, as seen through various disciplinary lenses, is an essential focus of the organization,” Gray says. The organization has a national membership and is responsible for publishing the Journal of Rural Social Sciences.

Co-chairs picked for Co-op Caucus

U.S. Senators John Thune of South Dakota and Amy Klobuchar of Minnesota will be co-chairs of the Congressional Farmer Cooperative Caucus. In the House, U.S. Representatives Sam Graves of Missouri and Tim Holden of Pennsylvania will also co-chair the caucus. The caucus has 18 Senate members and 44 House members.

Thune was also co-chair of the Congressional Farmer Cooperative Caucus during the last session of Congress and has served on the U.S. Senate Agriculture Committee since 2007. He played a critical role in the passage of the 2008 Farm Bill in the U.S. Senate and served on the U.S. House Agriculture Committee during the drafting of the 2002 Farm Bill.

Klobuchar serves on the U.S. Senate Agriculture Committee and worked closely with House Agriculture Committee Ranking Member Collin

MMMA wins Dairy Plant of the Year

Michigan Milk Producers Association (MMPA) recently took home top honors from the International Dairy Foods Association (IDFA) annual meeting, winning the 2010 Plant of the Year award from Dairy Foods magazine. The co-op recently completed a two-year, $62 million renovation project at the plant.

The investment made by the dairy farmer-owners of MMPA increased daily processing capacity to nearly 5 million pounds and expanded the production capabilities at the Ovid facility. The expansion included construction of a $27 million tower dryer, $7 million in mechanical vapor recompression (MVR) equipment and $28 million in receiving, processing, utility and warehousing improvements and additions.

MMPA General Manager Clay Galarneau accepted the award at the IDFA meeting. “It is a real honor to be recognized by this group of processors,” Galarneau said. “Our members have made a significant investment in our processing facilities and we are proud of the improvements made at Ovid. We believe this investment will benefit our dairy farmer owners for many years.”

The changes made at the plant were spurred by increasing milk production in Michigan and the Great Lakes region. Faced with additional volumes of milk, MMPA members had to choose between investing in their own facility or sending the milk to neighboring states. “Our members saw the need for the plant expansion and backed it with a 10-cent per hundredweight equity retain,” says MMPA President Ken Nobis. “Our members see a strong future in Michigan’s dairy industry, and our facilities need to be able to keep pace with our members’ production and customer needs.”

Products made at the Ovid facility include cream, condensed milk, butter and powdered milk, which are sold as dairy ingredients to a wide variety of food manufacturers. “You don’t see the MMPA label in the store, but when you eat pudding, yogurt, cookies, ice cream and many other foods, chances are you are enjoying ingredients made at the MMPA manufacturing facility,” Galarneau says.

MMPA is owned by about 2,100 dairy farmer-members throughout Michigan, Indiana, Ohio and Wisconsin. In 2010, MMPA marketed more than 3.9 billion pounds of milk.
Peterson to pass the 2008 Farm Bill. With more than 200 cooperatives, Minnesota leads the country in number of cooperatives.

**Foremost distributes $31 million to members**

Foremost Farms USA, Baraboo, Wis., issued cash payments of $31.8 million during 2009 and 2010 to dairy producer-members of the cooperative. Of that total, $6 million was paid in 2009 in cash patronage and equity reversals. The remaining $25.8 million was issued in 2010, including $6.7 million of cash patronage; the balance represented reversal of equities held by dairy producers who marketed milk through Foremost Farms and its predecessor cooperatives.

“We have repositioned our business and have been profitable despite marketplace volatility and a challenging national and global economy,” says Dave Furmann, co-op president. “The board of directors is looking to the future as the global demand for dairy increases. We will grow with that demand and maximize returns for our present, past and future members.”

Foremost Farms USA is owned by 2,200 dairy farmers from Wisconsin, Minnesota, Illinois, Indiana, Iowa, Michigan and Ohio who market 5 billion pounds of milk annually. In 2009, Foremost Farms revenue was $1.14 billion.

**Changes to VAPG program announced**

Deputy Agriculture Secretary Kathleen Merrigan has announced changes to USDA Rural Development’s Value Added Producer Grant (VAPG) program that will provide additional opportunities to beginning and socially disadvantaged farmers. The changes, outlined in an interim rule published in the Federal Register, will also assist independent producers, farmer and rancher cooperatives, agricultural and producer groups, as well as support local and regional supply networks with their value-added projects.

“Improvements to this popular program will create additional economic and job opportunities by helping owners of small- and medium-sized family farms sell their products in local and regional markets, part of our drive to ‘win the future,’” Merrigan said. “USDA investments such as these are part of the Obama administration’s work to support farmers, ranchers and rural businesses.” The regulations address program changes included in the 2008 Farm Bill.

The revisions include:

- Providing up to 10 percent of funding to beginner farmers and socially disadvantaged farmers and ranchers;
- Providing up to 10 percent of funding to local and/or regional supply networks that link producers with companies marketing their products;
- Giving priority for grants to beginner farmers, socially disadvantaged farmers and ranchers, and operators of small- and medium-sized family farms;
- Extending grant eligibility to producers who market their products within their state or within a 400-mile radius.

These changes take effect March 25, 2011. In addition to the rule changes, USDA Rural Development is soliciting comments on the interim rule and the best way to facilitate the participation of tribal entities and tribal governments in the VAPG program. For information on how to submit comments, see page 10,090 of the Feb. 23, 2011, Federal Register.

VAPGs may be used for feasibility studies or business plans, working capital for marketing value-added agricultural products and for farm-based renewable energy projects. Eligible applicants include independent producers, farmer and rancher cooperatives and agricultural producer groups.

“Value-added products are created when a producer increases the consumer value of an agricultural commodity in the production or processing stage. For more information on VAPG and other USDA Rural Development programs, visit: www.rurdev.usda.gov.

**Sunkist sales top $1 billion; Gillette picked as new chairman**

Sales for Sunkist topped $1 billion in 2010, the 10th time in the past two decades it has surpassed that mark, President and CEO Russell Hanlin told the more than 800 grower-members who met at California’s Ventura County Fairgrounds in February for the citrus marketing cooperative’s 117th annual meeting.

“In 2010 we were faced with, and successfully overcame, many difficulties imposed by the weak global economy,” Hanlin said. “We ended the year strong and financially stable, increasingly more efficient and well positioned for continued success. The coordination between our sales and marketing team and our packinghouses was the best I’ve seen.”

Following the annual meeting, the newly elected board of directors met to elect their officers for the current year. Mark D. Gillette of Dinuba, Calif., was elected to his first term as board chairman, succeeding Nicholas F. Bozick of Mecca, Calif. Bozick had served as chairman for five consecutive terms, the maximum allowed under Sunkist bylaws.

Gillette is a fourth-generation citrus grower who started the Gillette Citrus Co. in 1983 with his father and brother. He is the managing partner of Gillette Citrus, a Sunkist-affiliated grower, packer and shipper of fresh citrus. He grows oranges in Fresno and Tulare counties. Gillette has served on the Sunkist board since 1999.

**CCA cooking up ‘hot communications’**

“Hot Ideas for Cooperative Communicators” is the theme for the 2011 Cooperative Communicators Association’s (CCA) annual institute June 19-22 in San Antonio, Texas. Among the scheduled sessions are:

- Spice up your newsletter design;
- Writing a smokin’ social media policy;
The obvious difference is that a cooperative’s customer is also the shareholder, making it sometimes difficult to balance how the shareholder-customers want their return. Do they want it in price? Do they want it in service? Do they want it in a market? Or do they want it in profit returned in patronage or dividends?

Balancing those questions is the minefield that cooperative CEOs and boards of directors must manage their way through.

The second major difference is the method of communication used. The publicly traded corporation is very formal in this regard, by requirement. The cooperative is much more informal and hands-on, directly one-on-one with the customer. Communication is much more open regarding operations and the direction of the company because cooperatives do not need to be as concerned that what they say may affect their stock price. Cooperative CEOs must be prepared to spend a lot of time with their customer-owners.

The third major difference between co-ops and investor-owned businesses is the focus on quarterly earnings. A publicly traded firm is often much more concerned about short-term earnings and the impact on stock price. The cooperative is usually focused on annual results and the impact on patronage returns at the end of the year.

The final difference is the close personal relationships that are sometimes developed with the customer-owners of a cooperative. Cooperatives view themselves as an extension of the customers’ operation and take a more personal interest in their overall success.

I would have to say that there are more similarities between a cooperative and a publicly traded corporation than there are differences. It is the close personal relationships and the feeling of being a part of the customer-owners’ operation that has been the most rewarding to me.
NO CO-OP IS AN ISLAND

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