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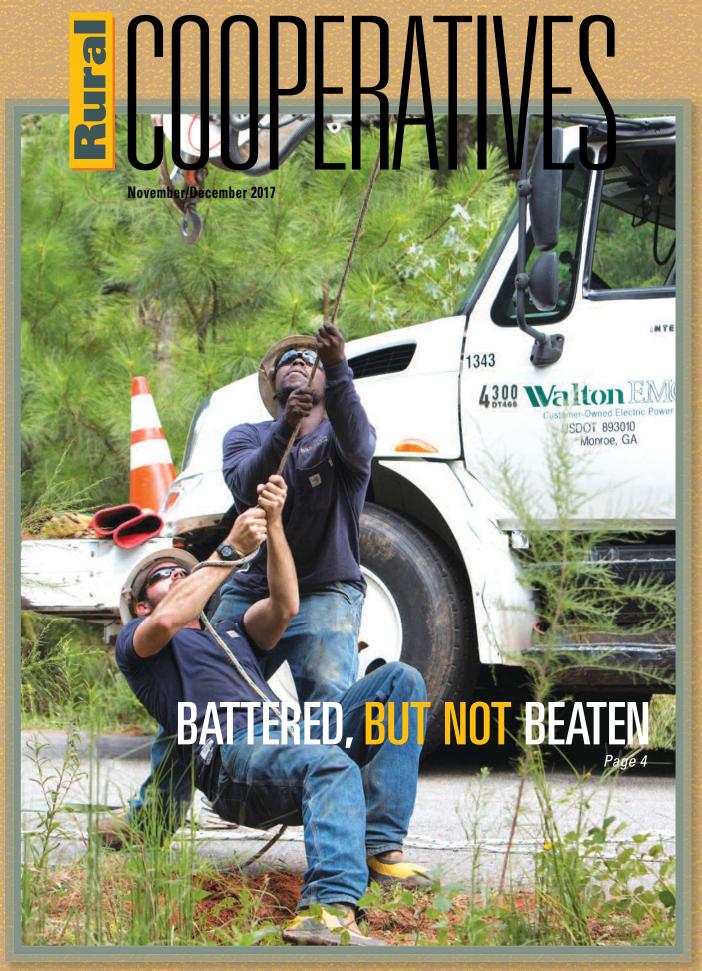
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New from USDA

Running a Food Hub, Volume 4: Lessons from Food Hub Closures

Service Report 77, Part 4

This report draws on national data and case studies to gain understanding of why some food hubs have failed in an effort to learn from their mistakes and identify general lessons so new and existing food hubs can overcome barriers to success.

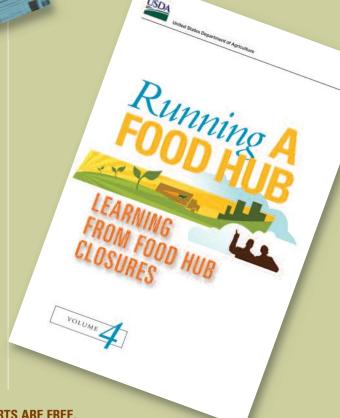
The first three volumes in the series address: Lessons Learned from the Field, A Business Operations Guide and Assessing Financial Viability.

Federal Statutes of Special Importance to Farmer Cooperatives

CIR 66

Keeping abreast of federal laws that impact farmer cooperatives is essential for co-op managers and board members. This report includes laws that govern payment and reporting of patronage dividends, treatment of taxable income, the Agricultural Marketing Act and many other laws that may impact your co-op.

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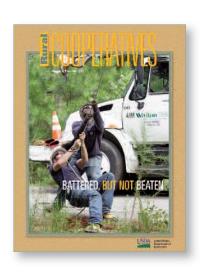
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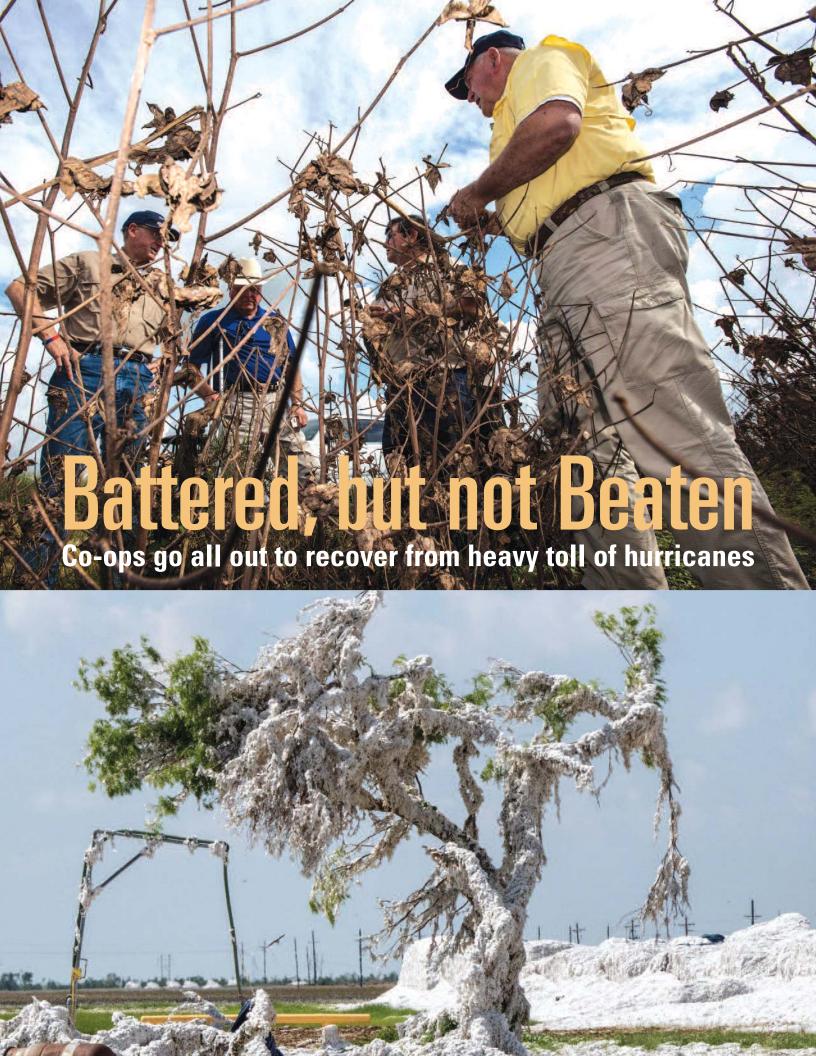
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ON THE COVER: Walton EMC line technicians Brandon Brooks (left) and Ryan Glosson hoist a power line back to the top of a pole that was replaced after being broken during Hurricane Irma. See page 4 for hurricane coverage. Photo by Savannah Chandler, courtesy Walton EMC





By Donna Abernathy

Editor's note: Abernathy is a Tennesseebased writer/editor with extensive experience covering cooperatives.



David Wyatt had never seen anything like it in 26 years as the manager of Bayside-Richardson Co-op Gin. The

cooperative's members were picking double the average cotton harvest from 17,000 acres in Refugio County, on the Texas Gulf Coast.

"It's the all-time record crop," a happy Wyatt told a local newspaper reporter on Aug. 20. The historic yields had employees working around the clock, seven days a week, to process the modules and round bales stacked up in the gin yard like an abstract monument to success.

As members completed harvesting on Aug. 24, Wyatt was making plans to extend the ginning season by several weeks to accommodate the abundant crop. Hours later, the gin's motors were silent and the once-bustling facility resembled an Old West ghost town. Trouble, in the form of a Category 4 hurricane, forced the co-op manager and 30 employees to abandon their work and flee in search of safety.

Stories like Wyatt's are common as U.S. farmers and their cooperatives grappled with three catastrophic hurricanes within a month's time in the final days of summer. The storms ravaged some of the nation's top food and fiber production areas, stripping away this year's yield prospects and endangering future production.

Harvey's havoc

Hurricane Harvey slammed ashore on Aug. 25, just six miles southwest of the Bayside-Richardson gin in



David Wyatt, manager of Bayside-Richardson Co-op Gin, stands on what is left of the seriously damaged gin in Woodsboro, Texas. Members were harvesting a bumper crop when Hurricane Harvey pounded the area, leaving multiple buildings and equipment at the gin damaged beyond repair. USDA photo by Lance Cheung

Woodsboro, Texas. The first Category 4 storm to hit the United States in more than 13 years, it delivered 135 mph winds and once-in-a-millennium downpours, dealing a significant blow to Texas' \$100-billion agriculture industry.

"It blew right through our front door," Wyatt says of the storm that pounded the gin and a 100-mile swath of prime coastal farmland for hours.

When the mandatory evacuation order was lifted, Wyatt maneuvered his truck through a dangerous obstacle course of post-storm debris and downed power lines to reach the cooperative. What he found made his heart sink: multiple buildings and equipment damaged beyond repair.

Adding insult to injury, the wicked winds had "painted" the landscape with the record-breaking cotton crop ripped from about 700 tarp-covered modules waiting to be ginned. Nearly 100

U.S. Secretary of Agriculture Sonny Perdue (right) tours a damaged cotton field that was flooded during Hurricane Harvey. He was joined by members of the Texas Congressional delegation and others. Lower: The ghostly image of a tree that was coated by cotton blown from cotton bales ripped apart by Hurricane Harvey. USDA Photos by Lance Cheung

percent of the cotton stored in modules was lost.

There would be no quick fix for the mess. The Bayside-Richardson gin and the bumper crop of 2017 were, literally, gone with the wind. The heavily damaged facility will not reopen this vear.

Blown away

"It was the crop of all times and the hurricane of all times — and they didn't go well together," Wyatt says, summarizing how cotton growers and the cooperative gins serving them — were left reeling by the storm.

The coastal strip affected by the storm was the second-biggest cottonproducing area in a state that is the No. 1 cotton producer in the country. Thirteen of the 54 counties declared disaster areas by Texas Governor Greg Abbott are cotton-producing areas.

Most of the Gulf Coast cotton crop was already harvested and stored in modules, which Harvey's gale-force winds blew apart. Unharvested cotton fields also took a beating, ultimately yielding only half of their pre-storm potential, both for quantity and quality.

Cotton destroyed or drowned by the storm represents about a fifth of the state's projected 2017 crop. Gene Hall of the Texas Farm Bureau estimates cotton losses could be as much as \$135 million.

Spirits high despite devastation

Grower-owned cotton gins in South Texas were damaged, but most were able to recover and return to operation within a few days, says Tommy Engelke, executive director of the Texas Agricultural Cooperative Council. He visited coastal cooperative ginning operations and grain elevators a week after Hurricane Harvey made landfall. He was heartened by what he found.

"In the midst of how bad everything around them was, I was surprised at how well the gins held up," Engelke says. "In most cases, conditions were not good, but people were in good spirits."

Cooperative gins in the affected area experienced downtimes associated with lengthy power outages as well as structural damages, but most were up and running within a few days of the storm. At United Ag Co-op in El Campo, fast-thinking employees used two, 3,500-gallon-per-minute water pumps to divert floodwater from the gin yard where cotton was stored.

Despite most grain loss being mitigated, co-op marketing facilities also experienced costly damages, Engelke says. Among them is Midway Gin and Grain in Taft, about 20 miles southwest of where Harvey made landfall. Employees there are cleaning up the pieces of two large grain tanks that were destroyed. Hurricane winds also blew the tops off of six steel bins filled with corn and milo and damaged the grain elevator at Moreman Community Gin Association in Port Lavaca.

Some grain co-ops made the most of their mandatory downtime. Woodsboro Farmers Co-op, a grain and farm supply co-op serving a community of 1,500 in western Refugio County, is one example. Despite having grain bin damage, boarded up windows and no electricity for two weeks, manager Roxann Wiginton and her team demonstrated the cooperative principle of caring for community. They hosted emergency service providers who used the property as a staging area to help the devastated community.

Livestock fares better

Harvey's impact on cattle production — Texas is also the nation's top cattleproducing state — appears to be less than initially feared. More than a fourth of the state's herd, about 1.2 million beef cattle, were in the impacted area.

In most cases, ranchers were able to move their cattle from the flat South Texas prairie to higher ground before the storm unleashed catastrophic flooding on the area. There were few instances in which large groups of cows drowned.

Livestock producers aren't fully out of the woods yet, however, says Jason Cleere, Texas AgriLife Extension beef cattle specialist. They will still face myriad cattle health problems stemming from the storm. Adequate nutrition is also a problem since flooding decimated pastureland and ruined hay crops.

Irma batters Florida crops

Hurricane Irma began its attack on the Southeast on Sept. 9. Florida's fruit groves, farms and ranches were squarely in its crosshairs.

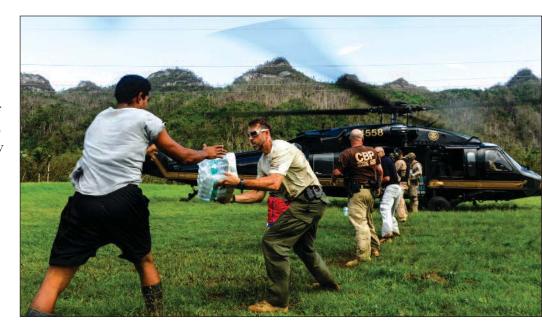
"The path of Hurricane Irma could not have been more lethal than what it was," says Florida Agriculture

groves were drowned in the 17 inches of rain that dropped in just 24 hours.

Florida Citrus Mutual, the state's largest citrus grower organization, with 6,500 members, pegged total fruit loss at more than 50 percent. Some cooperative members in the southwest part of the state reported a 100-percent fruit loss.

The hurricane's impact will last well beyond this year's harvest, warns Michael W. Sparks, executive vice president/CEO of Citrus Mutual.

"The long-term effect of Irma on our industry will take years to sort out," Sparks says. "We had groves underwater, and those trees aren't just going to bounce back and continue



The U.S. Department of Homeland Security delivers food and water to an isolated area of Puerto Rico, where residents were cut off from road traffic after the bridge to their area was destroyed by Hurricane Maria. The Federal Emergency Management Agency and its federal partners launched 24-hour operations to conduct relief missions, such as this. President Donald Trump has praised the tireless work of such teams of civilian and military personnel. U.S. Air Force photo by Joshua L. DeMotts

Commissioner Adam Putnam. The Florida Department of Agriculture and Consumer Services estimated \$2.5 billion in damage to agriculture.

The state's citrus groves, which lead the nation in orange production, were devastated when the storm smashed into the peninsula. Fruit was knocked to the ground by 120 mph winds and

producing fruit. They are gone."

Florida's orange harvest, which usually begins around Thanksgiving, will hit a 71-year low, due to the storm devastation, the U.S. Department of Agriculture reports. The storm strikes another serious blow to an industry already under a decade-long siege by citrus greening disease, which has

Co-op strength harnessed for hurricane repairs

With a little help from their friends, electric cooperatives were able to recover more quickly from the ravages of hurricanes Harvey and Irma. Honoring the sixth cooperative principle — cooperatives helping cooperatives — thousands of co-op linemen were dispatched to stormtossed areas to help reenergize electric co-op systems in Texas, Florida, Georgia and South Carolina.

Texas took care of its own after Hurricane Harvey smashed directly into electric cooperatives along the Gulf Coast, while the torrential rains it brought created havoc for co-ops farther inland. More than one-third

of the state's 67 distribution electric cooperatives sent crews to help 14 co-ops with hurricane-related outages affecting about 160,000 meters.

The Texas teams succeeded in restoring most electric service in six days or less. Even hard-hit Victoria and San Patricio electric cooperatives, which experienced neartotal system outages, had reenergized most of their lines in about a week.

Nearly 2,000 co-op employees from 25 states headed south to pitch in on restoration work after Hurricane Irma roared up Florida's Gulf Coast and into Georgia and South Carolina. The National Rural Electric Cooperative Association reported storm damages left 1.5 million co-op members in the dark.

An army of more than 300 restoration and support personnel descended on Florida Keys Electric Cooperative. The system, which serves consumers in the Upper and Middle Keys, was the first U.S. electric co-op pummeled by Irma. In four days, power was restored to 70 percent of the critical facilities, such as hospitals, key government buildings, sewer facilities and waterpumping stations. Eleven days after the storm hit, co-op CEO Scott Newberry announced that power had been restored to nearly 100 percent of members who could safely receive it.

Peace River Electric Cooperative was another of Florida's electric co-ops receiving help. Line workers at the central Florida co-op teamed with crews on loan from Texas, Louisiana, Oklahoma and Georgia to restore



Repair crews worked around the clock to restore power in Georgia (seen here) and other parts of the country pummeled by hurricanes. Photo by Savanah Chandler, courtesy Walton **EMC**

service to all 40,000 of its meters that were offline.

Georgia co-ops hosted power restoration crews from 14 states to help tackle the unprecedented damage inflicted by Irma. About 550,000 Peach State electric co-op members were without electricity after the storm wrecked the state's electric infrastructure.

"Irma was an epic storm," says Marian McLemore, vice president of cooperative communications for Flint Energies, a co-op serving consumers in Middle Georgia. "It took Flint 80 years to build our 17-county electric system, and took just 24 hours of storm conditions to destroy 35 percent of it."

Eighty-five linemen from four states came to help Flint personnel repair electricity distribution lines down in "226 different places," to restore power to 43 percent of Flint's members, says Ty Diamond, the co-op's chief operating officer.

A hundred miles north, visiting co-op crews from three states helped Walton EMC restore power. About twothirds of Walton's members were in the dark after Irma's winds took down 154 power poles, the most the co-op has ever lost in a single storm. The average time to replace a broken pole is four hours. Through cooperative teamwork, all power was restored within 78 hours.



Parents Tania Rodriguiz Ramos and Fransisco Llull Vera, along with ship crew members, say a prayer for baby Sara Victoria Llull Rodriguiz after her birth aboard the USNS Comfort, a Navy hospital ship operating off the coast of Puerto Rico near San Juan. Hurricane Maria knocked out power to many of the island's hospitals. This was the first baby born aboard the ship in more than seven years. U.S. Navy photo by Ernest R. Scott

reduced the citrus harvest by well more than 50 percent in recent years.

The state's sugar cane growers may not fully know the fate of their crop until around the end of the year, says Barbara Miedema, vice president of public affairs and communications for the 45-member Sugar Cane Growers Cooperative of Florida. Co-op members began their 2017 harvest Oct. 24, right on schedule.

Half of all the sugar cane grown in the U.S. comes from the Sunshine State, where state officials currently estimate a 10-percent crop loss.

"We were fortunate. At one point, the storm was projected to come right on top of us, but it shifted further to the west," Miedema notes. High winds and heavy rainfall left much of co-op members' 72,000 acres in the Everglades Agricultural Area — 18

percent of the state's sugar cane production — laying on the ground in standing

Though much of the cane eventually began to stand again, shredded leaves will limit the crop's sugar content. Of greater concern is the significant amount of uprooted cane and damaged seed plants, factors likely to reduce production for up to three years, Miedema says.

Despite the storm's ravages, southern Florida should continue being the key source of fresh fruits and vegetables for the nation this winter, the

Florida Fruit and Vegetable Association reports. The tomato crop will likely be light in early November, but should recover by December. Strawberry growers expect to harvest on time.

Perdue views pecan damage

After anticipating a bumper crop this year, pecan growers became Georgia's biggest losers after Irma churned through the state as a tropical storm. As much as 35 percent of the crop was wiped out in the country's topproducing pecan state, officials told Agriculture Secretary Sonny Perdue when he toured storm-damaged orchards. He had also toured hurricanehit parts of Texas and met with producers to help direct USDA recovery assistance.

University of Georgia Extension pecan specialist Lenny Wells says Irma unleashed the most damaging winds event ever experienced by the state's pecan industry, with virtually every orchard affected. Individual growers reported thousands of trees uprooted and a significant percentage of nuts blown off trees by the storm's sustained winds and gusts reaching 75 mph.

Growers there will reportedly lose more than \$100 million in nut yields this year. However, generational

damage is the greater concern, according to Georgia Agriculture Commissioner Gary Black. Lost pecan trees can negatively impact production for a decade, because new trees take 7-10 years to mature and produce nuts.

Maria mangles Puerto Rico

Despite their losses, farmers on the U.S. mainland were spared the season's worst storm, but their counterparts in Puerto Rico bore the brunt of it. On Sept. 20, the Caribbean island felt the full force and fury of Hurricane Maria. It was the third-strongest storm ever to hit a U.S. territory. Maria's 155 mph winds left 34 dead, 100 percent of the island without power and caused catastrophic agricultural losses.

Before Maria, farmers in the U.S. territory were cleaning up the mess made by Hurricane Irma. The storm grazed the island and destroyed about 30 percent of its crops.

Maria wiped out 80 percent of Puerto Rico's crop value. Plantations, chicken coops and dairy barns were destroyed, making the disaster "one of the costliest storms to hit the island's agriculture industry," says Carlos Flores Ortega, Puerto Rico's secretary of the Department of Agriculture.

About 40 percent of Puerto Rico's agricultural income is from dairy. There are an estimated 94,000 dairy cows on the island. The other 60 percent comes from tropical crops such as plantains, bananas, coffee, papaya, mangos, pineapples and some hydroponic-grown vegetables. With yields that are modest by mainland standards, most farm production goes to ensuring local food

On Oct. 19, Ag Secretary Perdue announced USDA is providing emergency assistance to the island's dairy operators. The Commodity Credit Corporation is providing up to \$12 million to enable operators of Puerto Rico's 253 licensed dairy operations to purchase a one-month supply of feed for their cows. ■





Clockwise from upper right: Twins separated at birth? Co-op CEO Communicator of the Year Gary J. Ash (right) meets former Chicago Bears great Mike Ditka. Sarah Schmidt, winner of the Michael Graznak Award; Robin Conover, Klinefelter Award winner.

for the 'big-ga

Superior co-op communications efforts honored at CCA Institute

Editor's note: The following is condensed and adapted from a series of articles that originally appeared in CCA News, the member publication of the Cooperative Communicators Association. The original articles were written by Karen Blatter-Schieler, Chris and Ferry Kirk, and Casey Hollins.

A co-op CEO who impersonates a Football Hall of Fame player and coach to inspire his staff; a co-op communicator whose journalism skills have made her co-op's publication the most widely read periodical in the state; and a young communications practitioner who "epitomizes the meaning of the word cooperative" took home the three most prestigious awards from the 2017 Cooperative Communicators Association's (CCA) Institute in Baton Rouge, La. The award winners all demonstrate a total commitment to the type of superior co-op communications that is vital to the future of all co-ops.

CEO prepares staff for 'big game'

Wearing a fake mustache and using brown hair coloring to impersonate football coach/player Mike Ditka sounds like a Halloween get-up. But for Gary J. Ash, president/CEO of Normal, Ill.-based 1st Farm Credit Services, it was part of a larger effort to

communicate the cooperative's five-year plan to increase business earnings, capital and crop insurance acres.

Wearing Ditka's famous Bears sweater-vest and sunglasses, Ash drove home points about success, focus and determination — what it takes to make it to the "big game." After a few years, Ash totally embraced the Ditka impersonation, even growing his own mustache.

Ash has notched big communications scores over the years with his quarterly updates to cooperative clients and team members, outreach to both the agriculture and local communities, and general leadership by example. All are among the reasons Ash was selected for the CEO Outstanding Communicator Award.

"He sees how vital communication is to the success of his cooperative and works to make sure members and employees understand the importance of quality communication. He really gets it," according to the award selection committee. Ash, who has announced plans to retire this year, has focused on communications to drive the rural lending association to its current level of success.

After becoming CEO in 2006, Ash drove a cultural change at the co-op, increasing communication about all aspects of the business, both internally and externally. He communicates with clients via a quarterly column in the association's publication, Country Spirit, and pens his own message for the co-op's annual report.

Ash has worked closely with the communication and marketing team to promote the cooperative, offering notes of appreciation when work is completed. He leads the organization in support of local food banks, farmers markets, FFA and 4-H. His roles in the local Red Cross and community college demonstrate the type of community "give back" that shoud be in all of us. Ash encourages staff to be active in professional organizations such as CCA.

Multi-talented journalist wins Klinefelter

Robin Conover, editor of The Tennessee Magazine, was presented with the H.E. Klinefelter Award, CCA's highest honor for a career that has helped to raise the standard of excellence for co-op communications.

Conover joined the magazine staff in 1988 as a communications specialist, where her photography skills immediately made the magazine a more powerful education tool for the state's electric cooperatives. She was promoted to managing editor in 1996, to editor in 2002 and vice president of communications for the Tennessee Electric Cooperative Association (TECA), which publishes the magazine, in 2011.

"Robin is synonymous with The Tennessee Magazine and has been for many years," says David Callis, executive vice president and general manager of TECA. "Her editing skills are on par with her photographic skills, and she is one of the premiere photographers in the industry."

Conover's greatest talent is her communications vision, which has made The Tennessee Magazine the most highly read periodical in the state, Callis continued. "She has a depth of understanding that comes from her roots in rural Tennessee and her love and appreciation for our cooperative members."

From her first day on the staff, "Robin hit the ground running and has never let up," says Jerry Kirk, former editor of The Tennessee Magazine. Conover is the winner of numerous awards from CCA, including multiple selections as Photographer of the Year.

Conover is also board president of National Country Market, an advertising co-op owned by electric cooperative member publications, and is active in, and a past president of, the electric cooperatives' Statewide Editors Association (SEA). She has conducted photography and photo-editing workshops for SEA meetings as well as CCA professional development workshops and institutes.

Graznak winner adapts to meet challenges

Described as being "smart, innovative, determined and resilient," Sarah Schmidt, director of public affairs for Associated Milk Producers Inc. (AMPI), won the Michael Graznak Award, presented annually to one of the nation's most accomplished young (under age 35) communicators. Schmidt joined AMPI in 2010, where she embraced her communications role "with fervor," says Jason Jenkins of the selection committee. "Live it, breathe it, love it — it's what she does, and it's evident both in her work and her overall attitude."

Since joining AMPI, Schmidt has amassed a long list of accomplishments, including the creation of an awardwinning, electronic newsletter: Moosletter. Originally published for corporate office employees, the newsletter is now distributed to each of AMPI's 1,400 employees.

Schmidt played a key role in developing and executing a communication plan for the sale and closing of an AMPI plant in Dawson, Minn. — an experience from which she learned the importance of developing clear, thoughtful messaging for several audiences. The experience demonstrated how a carefully developed timeline can lead to the successful execution of a sensitive announcement.

In 2014, Schmidt helped to develop the strategy and messages to deal with some big communications challenges, including the unexpected resignation of the cooperative's CEO, a fire in the cooperative's largest consumer-product packaging plant, and the impact of a historic downturn in the dairy market.

"This tumultuous period that demanded her leadership will one day be a career pillar," says Sheryl Meshke, AMPI co-president/CEO. "She exhibited an ability to navigate difficult situations, delivering the communication AMPI members, employees and the dairy industry were seeking."

Communications Contest Goal: Stronger Co-ops

CCA's annual communications contest seeks to build stronger co-ops through improved communications. This friendly competition includes four overall sectors, each judged by experts in the field: Writing, Photography, Programs/Projects and Publications. Each contest area includes a dozen or so sub-categories, ranging from traditional media — such as member magazines and newsletters, press releases and annual reports — to newer communications media, such as websites and social media campaigns.

"We all like to win awards," says Nickie Sabo, 2017-2018 CCA president and communications specialist at Associated Milk Producers Inc. in New Ulm, Minn. "But more important than receiving recognition is the opportunity to receive comments from contest judges on every communications piece submitted. The feedback is so valuable and can be pivotal in leading teams to make improvements where needed."

In addition to receiving feedback on their own entries, CCA members also have the opportunity to view all winning entries and their judges' comments by visiting the CCA website and clicking on "Contest Winners' Showcase."

The overall competition annually attracts nearly 600 entries. A grand (or best of show) award is presented in each of the overall contest areas. This year, those awards went

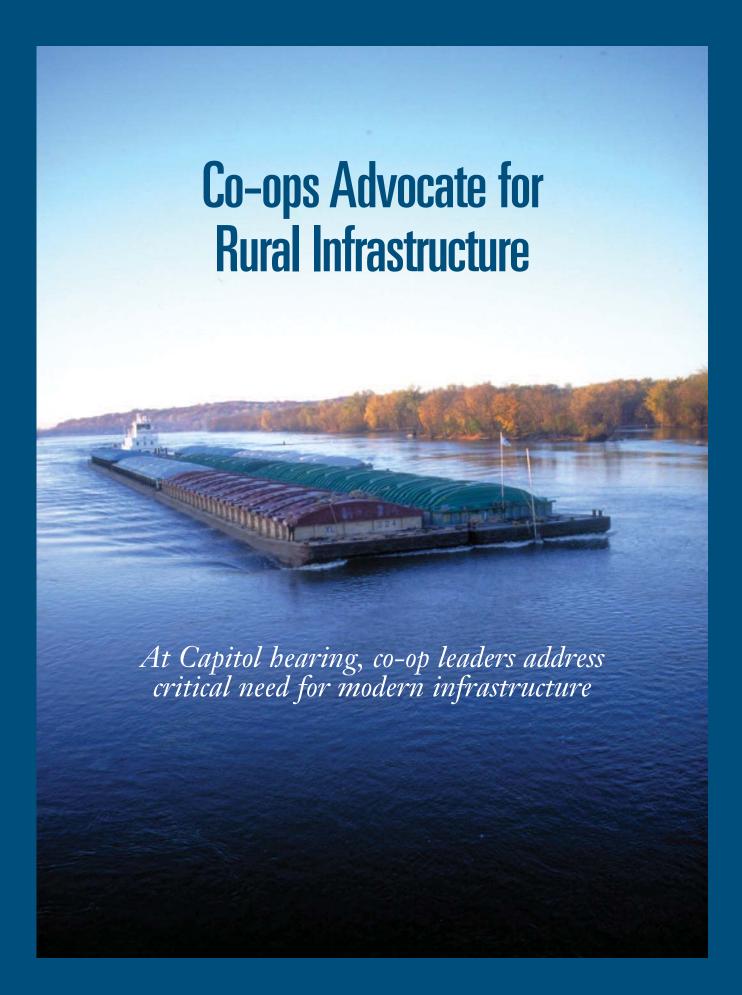
■ Publications, Best of Show: Texas Farm Credit's Landscapes magazine — The judge cited the magazine's combination of visual appeal and solid writing. "Landscapes is beautifully produced and offers gorgeous photography, modern and attractive layout, nice use of graphics and interesting, well-written articles." To encourage readership, "It is more important than ever that printed pieces have as much — if not more — visual appeal as they do good [editorial] content."



- Programs & Projects, Best of Show: "When a Champion is Born," video by Leslie Maurice of Select Sires Inc. — "Wow, this video makes the hair stand up on your neck," wrote the judge, who commended the composition and editing work. "[It is] outstanding, telling the story in a way that draws your attention from the very start." The video's use of natural sound, music and the narrator's resonant voice were all attention getters. Vivid images, such as a cow licking her newborn calf, makes the video "hit home."
- Writer of the Year: Joe Richardson of Southwestern Electric Cooperative -Richardson's portfolio included columns, technical writing and feature stories which showed "just how versatile the writer is," a judge remarked, also noting that his columns had a distinctive voice and point of view. "The writer is a real pro, a credit to our profession and to his publication."
- Photographer of the Year: Robin Conover of The Tennessee Magazine
- The judges were impressed with the diversity and quality of Conover's images, which range from landscapes to a close-up of lightning bugs. "This photographer has an excellent eye for detail in composing the shots," said a judge. Another was impressed by a photo of a victim standing amidst the ruins of a wildfire that ravaged a Smoky Mountain resort town. The photo "sent chills down my back," said the judge. "I could feel the anguish and the pain just looking at the shot."
- Photography, Best of Show: "Cooper Station at Sunset," Tim Webb, East Kentucky Power Cooperative — This image was selected for the honor by all three photo judges, largely for its mastery of light. One judge commented on the patience required for such a shot. "I wonder how many hours the photographer spent planning the shot and how many different locations they stood at before actually taking this image."

From top: Rappahannock Electric Cooperative won an award for print ads;

Electric Consumer magazine, published by the Indiana Association of Electric Cooperatives, won an award for best use of photos in a magazine; American Crystal Sugar took home an award in the annual report category; CoBank was a winner in the brochure category.



By Venus Welch-White, PhD, and Renie Langan

Editor's note: Welch-White is the national rural energy program coordinator and Langan is an energy programs specialist, both with the USDA Rural Business-Cooperative Service.



The longer the nation waits to undertake repairs of eroding rural infrastructure, the more critical the need

becomes and the more complex and costly the problem grows. That was the bottom line of much of the testimony delivered by cooperative leaders and others during a hearing in July before the House Agriculture Committee at a session titled The Status of Infrastructure in Rural America.

Infrastructure — including roads, bridges, railways, canals/waterways — is the foundation that supports our society and business sector. Infrastructure is a multi-layered array of interdependent transportation, communication, energy and trade systems that affect the ability to meet our most basic needs for food, water and shelter. The infrastructure/transportation challenge is especially acute for U.S. waterways, which are vital arteries for huge volumes of the nation's crops and the farm supplies needed to grow them.

Rural America also needs major investments to expand the accessibility of broadband service. Many see broadband as being critical to the

ability of rural areas to attract and keep businesses, as well as a key factor in improving the rural quality of life. Testimony also underscored that the development of renewable energy infrastructure holds great potential for the rural economy.

Jobs lost when infrastructure erodes

Tom Halverson, president and CEO of CoBank, part of the nation's producer-owned Farm Credit System, said rural America faces a broad spectrum of infrastructure needs.

"Those in rural communities have seen our infrastructure deteriorate, jeopardizing jobs, our agricultural competitiveness, and the health of rural families and communities," Halverson said. "Additionally, critical needs exist in providing clean water for rural families, expanding broadband and other communications capabilities to connect rural communities to the outside world, and enhancing the ability to supply affordable, reliable and secure electric power for the rural economy."

USDA's Rural Utilities Service (RUS) partners with lenders, such as CoBank, to provide capital to support rural energy, communications and water service. Many of these RUS customers are electric distribution cooperatives, some of which are not only deploying broadband, but are also helping to develop renewable energy.

While there is still a "demand for traditional fossil fuel-fired generation, especially natural gas-fired plants,

renewable energy is one of the fastest growing sectors in the economy," Halverson said.

"Generation and transmission cooperatives and regulated utilities customers are increasingly investing in renewable energy as costs come down, reliability improves and customer preference for renewable energy increases," Halverson added. "Many of our electric distribution cooperatives are also investing in renewable energy projects to reach their own sustainability goals and to reduce their reliance on power purchased from others."

Broadband key to rural future

Expanding broadband service is crucial to the future of rural America, said Curtis Wynn, president and CEO of Roanoke Electric Cooperative in North Carolina.

"Many comparisons are drawn between the lack of access to robust broadband service today, and the need for electrification in rural areas 80 years ago," Wynn said, referring to a time when urban areas of the country were well served with electricity while rural areas were being left behind. That situation was ultimately addressed by the passage of the Rural Electrification Act, which in turn led to the formation of rural electric cooperatives — such as Roanoke — to bring power to rural America.

"We believe that many different types of solutions will be needed to help rural Americans keep pace with their

Grain barges are critical to the transport of the nation's crops and farm supplies. But U.S. waterways need significant improvements to ensure smooth sailing in the years ahead, according to the American Society of Civil Engineers. Photo by David Lundquist, courtesy CHS Inc.

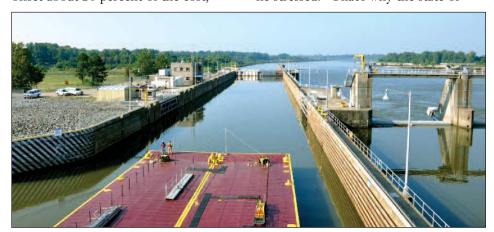
urban counterparts," Wynn said. "For years, electric co-ops across the country have provided information and advice to consumers to help them use electricity more efficiently and cost effectively."

USDA offers a number of programs that can assist in strengthening rural infrastructure, including development of renewable energy. For example, USDA's Rural Energy for America Program (REAP) supports rural small businesses, agricultural producers and cooperatives that are seeking to improve energy efficiency and/or incorporate renewable energy systems into their operations.

Eleven electric cooperatives within North Carolina are supplying community solar power throughout the state, Wynn noted. "To help make these projects more affordable, we have received four REAP grants from USDA. The total cost of all these projects was approximately \$5.1 million." Funding from REAP grants offset about 20 percent of the cost,

approximately \$1 million.

Rural areas, Wynn added, grow most of the nation's food, generate much of its power and manufacture many of the goods it consumes. "When rural areas suffer, the country as a whole suffers," he stressed. "That's why the state of





rural infrastructure should be of interest to all members of Congress."

Without a reliable infrastructure. farmers cannot maximize the benefits of modern technology, nor can they efficiently transport crops and products to market. Commerce is adversely affected by deteriorating roads, bridges and inland waterways.

River locks need major upgrades

Inland waterways that carry barge freight are critical to U.S. agriculture. Yet 47 percent of all locks maintained by the U.S. Army Corps of Engineers were classified as functionally obsolete in 2006, according to America's Infrastructure Report Card (report card), issued by the American Society of Civil Engineers (ASCE).

"River delays increase carrier costs that in turn make us less competitive in the world market," says Tracy Mack, director of supply-chain operations for GROWMARK, one of the nation's major agricultural cooperatives. "Maintenance delays affect our farmers, both for their production inputs and [getting] their product to market, competitively squeezing them from both sides"

The inland waterways of the United States includes more than 25,000 miles of navigable waters. The Mississippi River System (which includes the river and its connecting waterways) accounts for a large amount of the commercially important U.S. waterways.

According to the National

Waterways Conference (NWC), an advocate for water resources, "The nation's ports and waterways serve as the backbone of our transportation system, providing both domestic and international trade opportunities and low cost, environmentally sound goods movement." NWC calls for the development and maintenance of U.S. waterways and related infrastructure, including locks, dams, and navigation channels, as well as for harbor improvements, "to allow for the expanded use of this very efficient and environmentally friendly means of both commercial and public transportation."

The NWC website further states: "Our water resources infrastructure provides life-saving flood control, needed water supplies, shore protection,

Engineers give waterways a 'D' grade

Operation and maintenance costs for our inland waterways are paid in full by the federal government. Construction and rehabilitation costs are shared 50/50 by the federal government's general fund and by the Inland Waterways Trust Fund. The latter is supported by charging users a fee of 29 cents per gallon for barge fuel.

"Investment in the waterways system has increased in recent years, but upgrades on the system will still take decades to complete," says the American Society of Civil Engineers (ASCE). ASCE's 2017 Infrastructure Report Card (report card) assigns our inland waterway system a "D" grade.

"The United States' 25,000 miles of inland waterways and 239 locks form the freight network's "water highway," says ASCE. This intricate system, operated and maintained by the U.S. Army Corps of Engineers, supports more than a halfmillion jobs and delivers more than 600 million tons of cargo each year — about 14 percent of all domestic freight, it notes. Most locks and dams on the system are well beyond

their 50-year design life, and nearly half of vessels experience delays.

"Coupled with increasing traffic, vessels may be delayed for hours while aging locks are shut down for maintenance and repair. Between 2000 and 2014, the average delay per lockage nearly doubled from 64 minutes to 121 minutes. Across the system, 49 percent of vessels experienced delays in 2014. However, delay data is not currently standardized across the system and the reason for delay is not recorded, making it hard to accurately assess delays," according to ASCE's report card.

Some advocates see improvements occurring in the inland waterway system, due to increased investment and project prioritization. Some projects with initial completion dates of 2090 are now expected to be completed by 2038. However, as the report card states: "For this progress to come to fruition, and for the trend to improve, funding must continue at a higher and more consistent level, given the large backlog of needs."

Repair work is conducted on the Algiers Lock in 2013 after an underwater structural component of the 60-year-old lock broke, damaging a set of navigation gates. The lock is located at the confluence of the Gulf Intracoastal Waterway and Mississippi River. More than 2,800 barges, tows and vessels pass through it each month. Above: A barge makes its way through the McKlellan-Kerr Arkansas River Navigation System lock and dam. Photos courtesy U.S. Army Corps of Engineers

water-based recreation, environmental restoration and hydropower production. Moreover, waterways transportation is the safest, most energy-efficient and environmentally sound mode of transportation."

But the poor condition of river locks and related infrastructure is causing barge traffic to back up, sometimes adding days to the time it traditionally required to move grain, farm supplies and other freight to the destination.

GROWMARK ships just over 1 million tons of fertilizer each year by barge, accounting for about one-third of the co-op's total annual sales, Mack says. "Lock maintenance delays increase average transit times by several days. Our main concern is [the possibility of] a major outage beyond several days. If we lose our river option, freight costs would likely increase about \$20 per ton."

Gaining a competitive edge

The condition of rural infrastructure is also critical to MFA Incorporated a major Midwest grain and supply coop based in Columbia, Mo. — and the farmers it serves, says CEO Ernie

Verslues. When rural roads and bridges were created decades ago, they weren't designed for semis carrying 900 bushels of soybeans and 950 bushels of corn.

MFA's equipment has evolved to keep up with these changes. The cooperative deploys about 225 over-the-road trucks as well as other vehicles, such as sprayers and fertilizer spreaders, to move grain and farm supplies to and from 200 Agri Services and AGChoice locations in Missouri and surrounding states.

"Few industries are as reliant as agriculture on the nation's highways, rail system and waterways," Verslues says. "The strength of these transportation modes has been one reason agriculture enjoys a competitive advantage over the rest of the world. In particular, our highways and waterways need upgrades if that advantage is to continue."

The poor condition of transportation infrastructure may affect the ability to export farm products efficiently, which could hit U.S. producers' bottom line. While noting that there has been moderate growth in U.S. consumption of ag products, "we need even more

growth in exports," Verslues says. "That means more product will need to move on rail, highways and waterways."

MFA is doing its part, he points out. The new MFA Rail Facility near Hamilton, Mo., will potentially reduce truck traffic by as much as 14 million bushels of grain annually. It will also create efficiencies in many of MFA's feeder elevators in the area.

In addition to transportation, agriculture is impacted by access to reliable communication networks, he adds. Global positioning systems and other wireless technologies create the need for improved infrastructure to provide better connectivity. With its small towns, hilly geography and water features, MFA country falls into the territory that is difficult to serve by internet providers.

High-speed broadband will become more crucial as farmers adopt precision farming practices that require more data, says Thad Becker, director of precision farming for MFA. As the industry adopts more variable-rate technology and uses more photo and video imagery in managing crops, Becker believes farmers may require 10



This new MFA Incorporated rail facility near Hamilton, Mo., has the potential to reduce truck traffic – and associated wear and tear on rural roads – by as much as 14 million bushels of grain annually. Photo courtesy MFA Inc.

President's order should speed up infrastructure projects

President Donald Trump in August signed an executive order which aims to reduce the amount of time needed for infrastructure projects to secure environmental permits. An environmental review process that in the past took an average of seven years will now be condensed into an average of two years, he says.

During his remarks announcing the order, President Trump displayed a flowchart that represented the old process of project approvals vs. a new, significantly shorter flowchart. The executive order achieves the expedited process, in part, by designating one agency to take the lead on each project's approval process. It also establishes a review process that holds agencies accountable for conducting a timely review.

"It's going to be quick — it's going to be a very

streamlined process," Trump said in announcing the order. "And by the way, if it doesn't meet environmental safeguards, we're not going to approve it."

The American Society of Civil Engineer's 2017 Infrastructure Report Card recommends such streamlined permitting as one way to improve the nation's infrastructure. The organization's policy statement on the Regulatory Process for Infrastructure Development similarly aligns with much of what is in the President's order, including the designation of a single administrative processing/permitting agency to shorten and improve the approval process and improve inter-agency collaboration.

However, improving the permitting process alone cannot solve the problem. ASCE says increased investment is needed to close the infrastructure gap.

to 15 times more data—or even greater.

"The heart of MFA's precision program is managing data," Becker says. "The need for high-speed internet is going to keep growing as technology advances and farmers adopt more precision practices. We're seeing data drive decisions on the farm more and more every day."

One 15-barge tow = 1,050 trucks

The importance of barge traffic on our waterways is discussed in a recent report: the National Waterways Foundation Commission's Update of National Study Comparing Freight Transportation by Barge, Truck and Train, released in March. "One common, 15barge river tow has the same capacity as 1,050 trucks and 216 rail cars pulled by six locomotives," the report notes. One loaded, covered hopper barge can carry enough wheat to make almost 2.5 million loaves of bread, enough to provide a loaf to every person in the state of Kansas.

Removing barge traffic from the waterways would add 49 million truck trips annually to the nation's roads and highways. That increase in trucking would further tax the existing infrastructure and continue the deterioration of pavement, bridges, ramps, rest areas and weigh stations, panelists testified.

Shifting freight traffic from inland waterways to railroads would have a substantially different effect. The CSX railway currently delivers coal to electric plants along, or near, the Ohio River, using dedicated coal trains. If the Ohio River were closed to barge traffic and the CSX railroad was tasked with transporting the entire coal tonnage of the river, the initial outcome would be electric brownouts and interrupted manufacturing output, says the National Waterways Foundation's (NWF) report.

To meet the demand of the additional coal freight, CSX would immediately need to purchase 243 locomotives (at a cost of \$486 million) and 8,284 new coal cars (\$754 million), for a total cost of \$1.24 billion, the NWF report continues. Consumers, as a whole, would be effected by higher freight rates, the need to expand rail

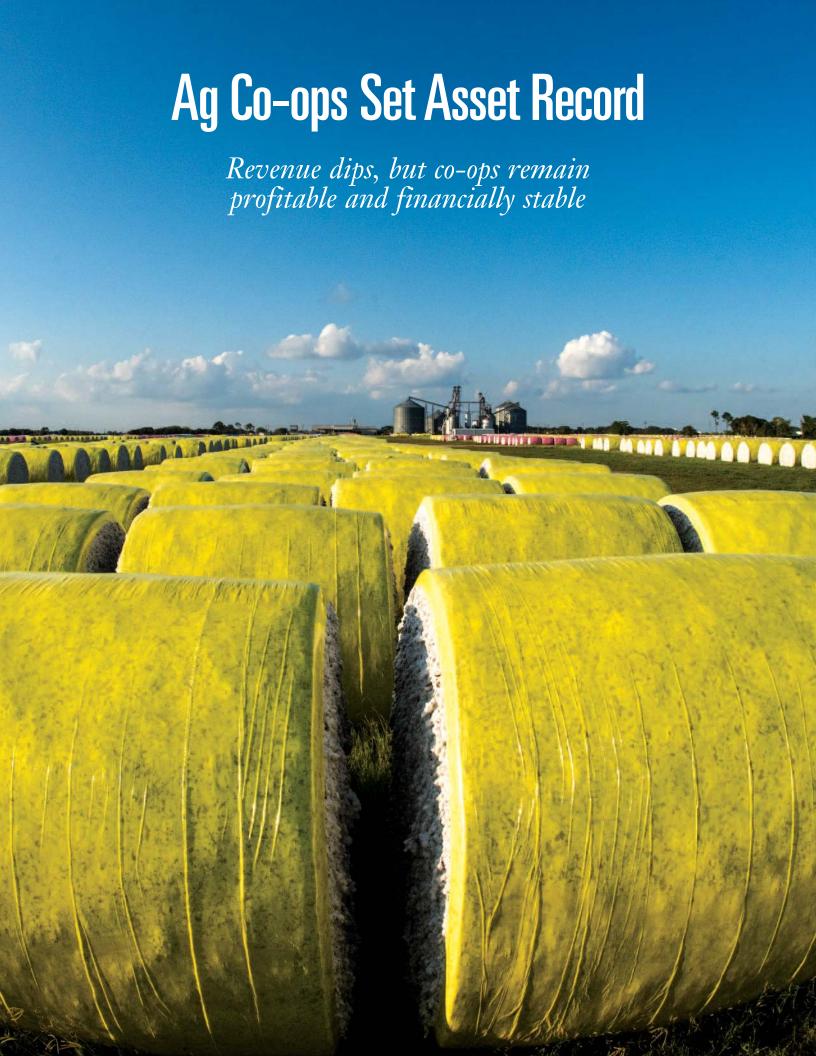
lines, potentially slower and less reliable delivery times, and increased vehicle congestion at rail crossing.

Multiple actions needed for multiple challenges

America faces multiple infrastructure challenges: aging electrical grids; the need for renewable energy systems; broadband access to support precision agriculture, trade, health care and education; and investment in our inland waterway system to allow products to get to market in a timely, affordable

The necessity of overhauling our infrastructure reaches beyond agriculture and rural America. The overall magnitude of the required investment is such that many experts have difficulty prioritizing which elements are the most critical.

As Congress continues to hold hearings on the needs of rural America, cooperative leaders say they will continue to advocate to support the needs of rural, and of all, Americans through investments in stronger infrastructure.



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Editor's note: This article presents highlights from USDA's 2016 survey of farmer, rancher and fishery cooperatives. The authors — an ag economist and support staff — thank all U.S. agricultural co-ops for their continued participation in the annual survey, the results of which demonstrate the important role ag cooperatives play in the nation's economy. It also provides benchmarking and comparative analysis that can help co-ops in many ways.

The full 2016 ag co-op statistics report should be available by late December in the cooperative publications section at: https://www.rd.usda. gov/publications/publications-cooperatives. Hard copies will be available in December. Send requests to: coopinfo@wdc.usda.gov.



USDA's annual survey of the nation's 1,953 farmer, rancher and fishery cooperatives shows

that while revenue dropped for the second straight year, net income nearly matched the record high set in 2015. Service receipts and other operating income dropped very slightly in 2016, while total expenses dropped by 5 percent. Patronage received and non-operating income both increased, by 6 and 7.5 percent, respectively. Taxes dropped sharply,

Table 1 U.S. agricultural cooperatives, comparison of select data, 2016 and 2015

Item	2016	2015	Difference	Change
ILGIII	Billion \$	Billion \$	Billion \$	Percent
Income Statement	Zimon Ç	Zimon ¢	Simon ¢	roroom
Marketing	114.587	124.893	(10.306)	(8.25)
Supplies	71.048	81.709	(10.661)	(13.05)
Service	3.819	3.938	<u>(0.119)</u>	(3.02)
Gross operating revenue	189.454	210.539	(21.085)	(10.01)
Cost of goods sold	<u>165.628</u>	185.282	(19.654)	(10.61)
Net operating revenue	23.826	25.257	(1.432)	(5.67)
Total expenses	18.298	19.262	(0.965)	(5.01)
Patronage income	0.888	0.838	0.050	5.95
Non-operating income	0.733	0.682	0.051	7.50
Taxes	0.262	0.485	(0.223)	(46.02)
Net income	6.886	7.030	(0.144)	(2.05)
Total business volume1	191.075	212.059	(20.984)	(9.90)
Balance sheet				
Assets	92.055	88.229	3.826	4.34
Liabilities	51.156	47.715	3.441	7.21
Members' equity	40.899	40.514	0.385	<u>0.95</u>
Liabilities and net worth	92.055	88.229	3.826	4.34
Ratios (Percent)				
Debt-to-assets	55.57	54.08	Total liabilities / total ass	ets
Equity-to-assets	44.43	45.92	Total equity / total assets	;
Return on total assets	8.53	9.31	(Net income before taxe	s + interest) / total assets
Return on member equity	28.69	29.01	(Net income after taxes)	/ allocated equity
Employees (Number)				
Full-time	138,635	136,285	2,350	1.72
Part-time, seasonal	48,734	<u>51,004</u>	(2,270)	(4.45)
Total	187,369	187,289	80	0.04
Membership (Number)	1,901,418	1,921,023	(19,605)	(1.02)
Cooperatives (Number)	1,953	2,047	(94)	(4.59)

¹ Total gross business volume is the sum of total assets, service and other income, patronage income, and non-operating income.

Bales of cotton outside United Ag Cooperative's Hillje Cotton Gin and Grain Elevator in El Campo, Texas. The co-op has added VOMAX microwave cotton moisture sensors to its transfer trucks, which determine the moisture of cotton modules. An immediate decision can be made to determine if the cotton can be efficiently ginned or should be taken to another location for additional drying. USDA photos by Lance Cheung

by 46 percent, in 2016 from 2015. Net income after taxes was \$6.9 billion in 2016, 2 percent less than in 2015. Total business volume — comprised of sales, service receipts and other operating revenue, patronage income and non-operating income — was \$191.1 billion, almost \$21 billion less than in 2015 (Table 1 and Figure 1).

Lower prices for farm commodities (such as grain and poultry) and farm supplies (such as petroleum and fertilizer) were again the major factors in lower overall net sales. Farm commodities that reaped varying amounts of increased net revenue included cottonseed, dairy, fish, fruit/vegetables and wool. For farm supplies, only seed and "other" supplies increased in 2016.

Overall, total gross ag co-op business volume dropped by 9.9 percent in 2016 while net income dropped just 2 percent. Return on assets and member equity in 2016 were 8.5 and 29 percent, respectively, just slightly below 2015 levels.

Balance sheet remains strong

The combined balance sheet for the nation's ag co-ops remained strong, with record assets of \$92 billion and record member equity of \$40.9 billion in 2016 (Figure 2). This reflects an increase of \$3.8 billion (4.3 percent) in assets and \$385 million in members' equity. Investments in property, plant and equipment (fixed assets) by ag coops — including grain elevators, warehouses, farm supply stores, petroleum/convenience stores, fertilizer and feed plants, major food and beverage processing plants, etc. — also increased, to \$26.5 billion, up \$1.8 billion over 2015.

Total liabilities increased to \$51.2 billion in 2016, up from \$47.7 billion in 2015. Retained earnings also increased slightly, from \$16.3 billion in 2015 to \$16.9 billion in 2016.

Cotton, livestock revenue dips sharply

Cotton and livestock showed the

Table 2U.S. agricultural cooperatives net business volume¹, 2016 and 2015

1.	0040	2045	p://	
Item	2016	2015	Difference	Change
B 1 4 1 4 1	Billion \$	Billion \$	Billion \$	Percent
Products marketed:	0.005	0.007	(0.000)	(0.05)
Bean and pea (dry edible)	0.205	0.207	(0.002)	(0.95)
Cotton	1.835	2.332	(0.497)	(21.32)
Cottonseed	0.352	0.321	0.030	9.47
Dairy	38.562	38.328	0.234	0.61
Fish	0.228	0.224	0.004	1.70
Fruit and vegetable	5.913	5.889	0.024	0.41
Grain and oilseed	44.294	48.347	(4.053)	(8.38)
Livestock	3.779	4.792	(1.012)	(21.13)
Nut	1.745	1.723	0.022	1.29
Poultry	0.672	0.788	(0.116)	(14.74)
Rice	0.741	0.875	(0.134)	(15.31)
Sugar	4.539	4.727	(0.188)	(3.97)
Tobacco	0.291	0.339	(0.048)	(14.22)
Wool	0.005	0.005	0.000408	8.49
Other marketing ²	5.442	<u>6.514</u>	(1.072)	(16.45)
Total marketing	108.603	115.409	(6.806)	(5.90)
Supplies sold:				
Crop protectants	6.486	7.315	(0.829)	(11.33)
Feed	9.093	9.932	(0.839)	(8.44)
Fertilizer	10.425	12.326	(1.901)	(15.42)
Petroleum	17.031	21.390	(4.359)	(20.38)
Seed	3.423	3.188	0.235	7.38
Other supplies	5.132	4.873	0.259	5.31
Total supplies	51.589	59.023	(7.434)	(12.59)
Services and other income ³	5.440	5.458	(0.018)	(0.33)
Total net business volume	165.632	179.890	(14.258)	(7.93)

¹Net of inter-cooperative business.

largest declines in net business volume, both down 21 percent in 2016 (Table 2). Rice and poultry were the sectors with the next two biggest revenue declines, with both falling about 15 percent.

Net sales of cottonseed, dairy, fruit/vegetables, nuts and wool all increased in 2016, paced by cottonseed sales, which climbed 9.5 percent. Total net marketing declined almost 6 percent, down \$6.87 billion, in 2016. This compares to the larger marketing drop of \$22.9 billion from 2014 to 2015, a 17-percent decline. Figure 3 provides 10-year trends for dairy, grain, fruit/vegetables, livestock and sugar marketing by co-ops. It shows that co-

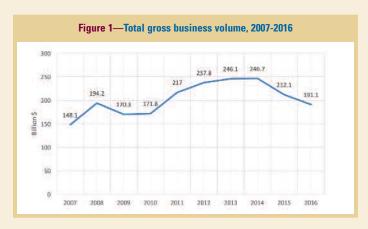
op grain sales dropped for three consecutive years, while livestock and sugar dropped for two straight years. Of these five commodities, only dairy inched upward in 2016.

Farm supply sales dropped almost 13 percent in 2016, with petroleum showing the biggest loss, down 20 percent. Petroleum was also the biggest supply loser in 2015.

The next biggest drops were for fertilizer (down 15 percent), crop protectants (down 11 percent), and feed (down 8 percent). Seed and other supplies both increased, by 7.4 percent and 5.3 percent, respectively. Figure 4 shows how sales of these farm supplies have trended over the past 10 years.

²Other marketing includes cottonseed, other marketings, and local foods (farmer markets, CSAs, food hubs).

³Includes service receipts, patronage refunds received and non-operating income.



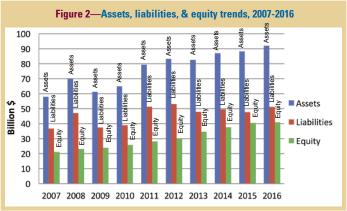


Table 3 Number of ag co-ops by structure and overall type, 2016 and 2015

Structure ¹ :	2016	2015	Difference	Change
Centralized	1,830	1,914	(84)	(4.39)
Federated	29	32	(3)	(9.38)
Mixed	<u>94</u>	<u>101</u>	<u>(7)</u>	(6.93)
Total number of cooperatives	1,953	2,047	(94)	(4.59)
Overall type ² :				
Marketing	762	777	(15)	(1.93)
Mixed marketing	<u>278</u>	<u>302</u>	(24)	<u>(7.95)</u>
Total marketing	1,040	1,079	(39)	(3.61)
Supply	595	632	(37)	(5.85)
Mixed supply	232	<u>242</u>	<u>(10)</u>	(4.13)
Total supply	827	874	(47)	(5.38)
Service	<u>86</u>	<u>94</u>	<u>(8)</u>	<u>(8.51)</u>
Total number of cooperatives	1,953	2,047	(94)	(4.59)

Centralized: local and regional co-ops with only producer members.

Federated: co-ops with just other cooperatives as members.

Mixed: both producers and other cooperatives as members.

Overall type²

Marketing cooperatives: 75 percent or more of sales and service revenue is marketing commodities. Mixed marketing: 25-49% of sales are from supplies; rest are from marketing ag products. Supply: 100% of sales are farm supplies.

Mixed supply, 25-49% of sales are from marketing products; rest are supplies.

Petroleum, feed, fertilizer and crop protectants sales dropped in both 2015 and 2016.

Co-op jobs inch upward; memberships dip slightly

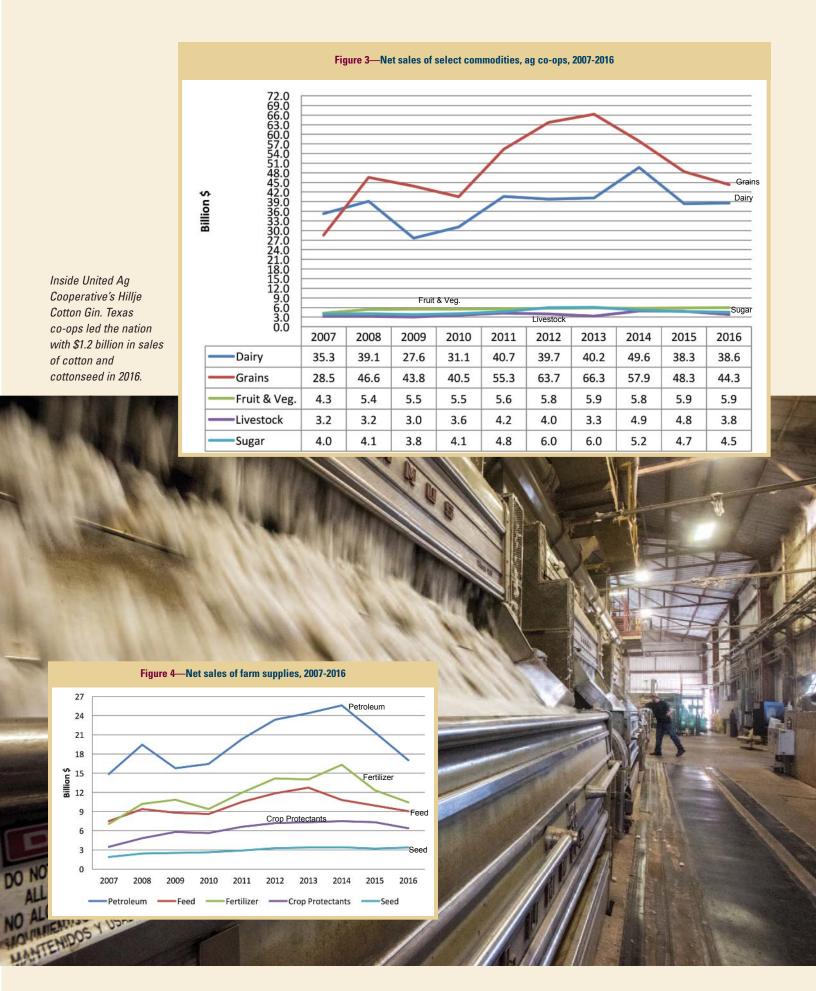
Total employment in ag co-ops increased slightly in 2016, up by just 80 employees over 2015. Full-time employment increased by 1.7 percent while part-time jobs declined by 4.5 percent. Co-ops had 138,635 full-time employees in 2016 and 48,734 parttime or seasonal employees, for total employment of 187,369.

Producers held 1,901,418 memberships in cooperatives in 2016, a decrease of 1 percent from 2015. Not all farmers, ranchers or fishermen belong to a cooperative, but many producers — especially those with larger, commercial-scale operations belong to several co-ops. For instance, a dairy farmer may market milk through a dairy foods cooperative while buying farm supplies from a supply coop. Most farmers and other rural Americans also get electricity through consumer-owned utility cooperatives. Many rural communities are even forming consumer-owned or community co-ops to keep a town's last grocery store, café or even movie theater in operation.

The number of farmer co-ops continues to decline. There are now 1,953 farmer, rancher and fishery coops, down from 2,047 in 2015. Ninetyfour co-ops were dropped from the USDA database in the past year. While there are some co-op dissolutions each year, the major cause for the decline in numbers is the continuing trend of mergers and acquisitions among cooperatives. Co-ops are merging to gain further economies of scale for maximum efficiency and to better position themselves for growth.

Cooperative structural characteristics

Most of the nation's ag cooperatives are centralized cooperatives, mostly



local or state-wide co-ops with individual farmer, rancher or fishery members. Some centralized co-ops operate over multi-state areas and provide more vertically integrated services, such as further processing products or manufacturing feed. Table 3 shows that the number of centralized co-ops dropped by 84, or 4.4 percent, in 2016.

The number of federated and mixed coops remained fairly stable, falling by just 3 and 7, respectively. In a federated cooperative, two or more member associations have organized to market products, purchase supplies or perform bargaining functions. In mixed co-ops, the membership includes co-op associations as well as direct memberships by individual farmers or ranchers.

Further analysis found that 1,040 coops predominately market farm products, while farm supply sales were the main source of revenue for 827 coops. Another 86 co-ops earn most of their revenue from services they provide (such as storage, transportation or agronomy service). The data was further divided into what is considered "mostly marketing co-ops" (those for which at least 75 percent of sales came from marketing commodities) and "mixed marketing" (co-ops that also sell substantial amounts of farm supplies, in addition to marketing farm commodities).

In 2016, 762 co-ops were categorized as "marketing," while 278 were labeled as "mixed marketing." Among farm supply cooperatives, 595 co-ops depended on supplies for 100 percent of their sales, while 232 co-ops also marketed commodities (most often grain), although supplies accounted for a majority of their sales.

Figure 5, which provides a breakdown of marketing co-ops by sector, shows that most were classified as grain co-ops (434), followed by fruit/vegetable (118), cotton/cotton gin co-ops (110) and dairy (109).

While cooperatives are categorized based on a majority of sales in specific areas, many co-ops have very diverse operations, conducting two or three primary functions for members. Some co-ops not only market their members' products — including crops, milk, livestock, fruit/vegetables, poultry and fish — but also do value-added processing and promotion, sell farm production supplies and/or provide members with a variety of services.

Home in all 50 states

All 50 states are home to at least one agricultural cooperative. Five states are home to the headquarters of more than 100 agricultural co-ops: Minnesota (with 178), Texas (166), North Dakota (134), Wisconsin (106) and California (103). These five states account for 35

percent of all U.S. ag co-ops.

Minnesota was also the leading state for co-op net business volume, at almost \$20 billion (this includes income from all co-ops with operations in a state, not just those with headquarters there). Iowa ranks second with \$16.8 billion, followed by Illinois with almost \$12 billion. Then comes California (\$10.5 billion), Wisconsin (\$10.3 billion), Nebraska (\$8.5 billion) and North Dakota (\$7.9 billion).

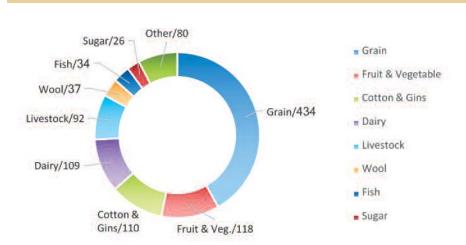
Co-ops an important mainstay

Agricultural cooperatives have been a mainstay in rural America since the early 1900s. Now, though fewer in number, co-ops remain an efficient and sound marketing channel for their members' products, many adding value to products, further benefitting member-owners. Co-ops also continue to provide supplies and services members need to operate farms and ranches in an increasingly dynamic, challenging agricultural environment.

Overall, ag co-ops are well managed, efficient and financially solid, helping to provide a strong foundation for the viability of the rural communities in which most producer-members live and where many co-op facilities are located. Ag co-ops also boost the economies of many larger cities where co-ops may have offices, plants and other facilities. Co-ops are investing in their operations, as evidenced by the record fixed asset and total asset level attained in 2016.

The positive performance of ag coops — even in the face of two years of lower commodity and input prices (2015 and 2016) — shows that the time-tested, member-owned and governed co-op business structure remains as important as ever to rural America. Ag co-ops support large numbers of off-farm jobs, businesses and public and private services, all of which benefit from having cooperatives present in their local economies.

Figure 5—Marketing co-op types, 2016





By James Wadsworth, Charita Coleman, Judith Rivera

USDA Rural Business-Cooperative Service



Net income of \$4.9 billion for the nation's 100 largest agricultural cooperatives (Top 100) in 2016 was just slightly

less than in the record year of 2015 (Table 1). Total gross business revenue (the main measure used for our Top 100 rankings) fell from \$148.6 billion in 2015 to \$136.3 billion in 2016, the second consecutive annual decline (see Figure 1).

The Top 100 co-ops were able to largely offset an 8-percent fall in total revenue from 2015 to 2016 by lowering cost of goods sold more than sales, by increasing service and "other operating" income, as well as by lowering expenses where possible. Thus, the Top 100 posted what some see as a surprisingly strong net-income level for 2016.

The \$136.3 billion in total gross business volume represents 71.4 percent of the \$191.1 billion recorded by all agricultural cooperatives for 2016, a slightly higher share than in 2015. Total

business volume is comprised of gross sales, service and other operating income, cash patronage from other coops and non-operating income (which may include inter-cooperative business). As discussed in the overall ag co-op statistics article in this magazine (see page 18), the drop in revenue was driven by declines in some leading commodity markets and depressed prices and demand in supplies sold.

Record asset levels

Total assets of the nation's Top 100 co-ops reached a record \$62.1 billion in 2016, an increase of 6 percent from 2015 (Table 2). Total assets of Top 100 co-ops represent 67.5 percent of the total assets of all agricultural co-ops in 2016, a slight proportional increase over 2015. Total liabilities were \$37 billion, a rise of 11 percent from 2015. The ramp up of liabilities reflects the increased investment in assets that coops undertook in 2016. Equity allocated to members was \$16.4 billion in 2016, a drop of 1.8 percent from 2015. Total equity also dropped some, but retained earnings increased by 2.5 percent.

The Top 100 cooperatives are ranked according to their total business volume

in 2016. The first six co-ops are the same as in 2015 (Table 5). Ninety-four of the Top 100 were also on the list in 2015

CHS Inc., Inver Grove Heights, Minn. — an energy, farm supply, grain and food co-op — has been the nation's largest agricultural co-op during the past decade. In 2016, its total business volume was \$30.5 billion and its assets were \$17.3 billion. By comparison, the 100th co-op on the Top 100 list had revenue of \$303 million.

"Mixed" grain/supply co-ops largest sector

The Top 100 includes 41 businesses categorized as "mixed" co-ops, indicating that they derive a significant amount of revenue both from marketing their producer-members' crops and livestock products, and from selling farm supplies and services (see Table 4). This is the biggest sector of the list.

Dairy is the next largest sector of the Top 100, with 21 co-ops that derived a majority of their sales from dairy products (primarily milk). Rounding out the list (in order, by sector) were: 8 farm supply co-ops, 8 fruit/vegetable



lowa co-op "biggest riser" into Top 100 List

Of all the cooperatives making the Top 100 co-op list, Cooperative Farmers Elevator, Rock Valley, Iowa, moved up the most to gain a spot, from number 201 on USDA's rankings of all farmer co-ops in 2015, to number 61 of the Top 100 in 2016. This was due to a merger with two other cooperatives in 2015: United Farmers Cooperative of Georgia, Iowa, and Cooperative Elevator Association of Ocheyedan, Iowa.

Prior to the merger, Cooperative Farmers Elevator (CFE) was named Farmers Elevator Cooperative of Rock Valley. The resulting cooperative, with \$488 million in total business volume, operates out of 31 branches handling various combinations of grain, agronomy, feed, energy, lumber and administration services. The co-op's mission (as posted on its website, www.coopfe.com) reads: "CFE is a progressive, farmer-owned cooperative that services local farms and rural business owners in the areas of agronomy, feed, grain, lumber and energy. CFE has locations in communities throughout northwest Iowa, southwest Minnesota, and southeast South Dakota with administrative offices in Rock Valley and Ocheyedan, Iowa. Our farmer-owners are at the core of what we do. After-all, our success is their success."

USDA photo by Lance Cheung

co-ops, 7 sugar, and 6 grain co-ops. There were 9 "other" co-ops (including 4 livestock, 2 cotton, 2 rice and 1 nut) in the Top 100.

Six of the Top 100 co-ops moved up in the ranks by 10 or more places in 2016. These included three mixed, two sugar, and one supply co-op. Conversely, 12 co-ops on the list in 2015 moved down in ranking by 10 or more places in 2016. Four of those are mixed type co-ops, while three are "other," two each are grain and dairy co-ops and one is in the farm supply sector.

lowa home to most Top 100 co-ops

As was the case in 2015, 15 of the Top 100 agricultural co-ops are headquartered in Iowa, the most of any state (Table 5). Minnesota ranks second with 12 co-ops in the Top 100. Nebraska is next with 9, followed by California, Illinois and Wisconsin with 5 each. Indiana, Missouri and Ohio each were home to 4 Top 100 co-ops, while Florida and Texas were each home to 3.

Thirty-one states are home to the headquarters of at least one Top 100 ag

Table 1 Abbreviated income statement for Top 100 ag co-ops, 2016 and 2015

	2016 Billion \$	2015 <i>Billion</i> \$	Difference Billion \$	Change <i>Percent</i>
Sales revenue	133.820	146.178	(12.359)	(8.5)
Cost of goods sold	120.649	<u>132.465</u>	(11.816)	<u>(8.9)</u>
Gross margin	13.171	13.713	(0.542)	(4.0)
Service and other operating incom	e <u>1.787</u>	<u>1.684</u>	<u>0.102</u>	<u>6.1</u>
Gross revenue	14.957	15.397	(0.440)	(2.9)
Expenses:				
Wages	5.814	5.626	0.189	3.4
Depreciation	1.754	1.643	0.111	6.8
Interest expense	0.479	0.460	0.019	4.1
Other expenses	2.603	<u>3.221</u>	(0.618)	(19.2)
Total expenses	10.651	10.950	(0.299)	(2.7)
Net operating margin	4.307	4.447	(0.141)	(3.2)
Patronage from Other Coops	0.306	0.318	(0.012)	(3.9)
Non-operating income (expense)	0.425	<u>0.417</u>	<u>0.008</u>	<u>1.9</u>
Net income before taxes	5.037	5.182	(0.145)	(2.8)
Taxes	0.152	<u>0.289</u>	(0.136)	(47.2)
Net income	4.885	4.894	(0.009)	(0.2)
Total gross business volume	136.337	148.598	(12.261)	(8.3)

^{*}Total gross business volume is the sum of Total sales revenue, Service and other operating revenue, Patronage from other co-ops, and Non-operating income (may include inter-cooperative business volume).

co-op. It is important to note that many of the Top 100 co-ops have members and operations in multiple states, even nationwide. The state where the headquarters is located does not necessarily mean that most of the coop's business is conducted there.

Total revenue drops

Total gross business volume of the Top 100 co-ops dropped from the record high of \$176.6 billion in 2014 to \$148.6 billion in 2015, then fell to to \$136.3 billion in 2016. That's a total drop of \$40.3 billion in revenue during the three-year period (Figure 1 shows the 10-year trend). Sales revenue (derived from commodity marketing and supply sales) was \$133.8 billion in 2016, a decrease of 8.5 percent from 2015 to 2016.

Cost of goods sold decreased 9 percent, slightly more than the drop in sales. Cost of goods sold generally reflects payments marketing co-ops make to members for their crops and livestock products as well as payments to vendors for supplies sold by a co-op. Gross margin was \$13.2 billion for the Top 100, a drop of 4 percent from 2015.

Service revenue increased for the Top 100, winding up at \$1.8 billion in 2016, a 6-percent increase from 2015. This income helped temper some of the margins lost from decreased sales, resulting in gross revenue of almost \$15 billion, down just 3 percent from 2015.

Total expenses of the Top 100 decreased in 2016, even with a 3.4percent increase in employee wages and benefits. Patronage income from other cooperatives decreased 4 percent, to \$306 million, but non-operating income increased 2 percent, to \$425 million in

Net income before taxes was \$5 billion, an almost 3-percent decrease from 2015. Taxes decreased by \$136 million, resulting in net income of \$4.9 billion for the Top 100 in 2016, just \$9 million less than in 2015. Figure 2 illustrates the trend in net income since

Table 2 Abbreviated balance sheet for Top 100 ag co-ops, 2016 and 2015

	2016	2015	Difference	Change
	Billion \$	Billion \$	Billion \$	Percent
Current assets	32.741	33.706	(0.966)	(2.86)
Investments in other co-ops	5.671	2.895	2.775	95.85
Property, plant & equipment	17.804	16.423	1.381	8.41
Other assets	5.880	<u>5.499</u>	<u>0.381</u>	6.93
Total assets	62.096	58.524	3.571	6.10
Current liabilities	24.625	22.682	1.943	8.57
Long-term liabilities	<u>12.395</u>	<u>10.677</u>	<u>1.718</u>	<u>16.09</u>
Total liabilities	37.020	33.358	3.662	10.98
Allocated equity	16.352	16.655	(0.303)	(1.82)
Retained earnings	<u>8.724</u>	<u>8.510</u>	<u>0.213</u>	<u>2.51</u>
Total equity	<u>25.076</u>	<u>25.166</u>	(0.090)	(0.36)
Total liabilities and equity	62.096	58.524	3.571	6.10

Table 3 Combined financial ratios, Top 100 ag co-ops, 2016 and 2015

	2016	2015	
Ratio			
Current ratio (current assets/current liabilities)	1.33	1.49	
Debt-to-assets (total liabilities/total assets)	0.60	0.57	
Long-term-debt-to-equity (long-term liab./total equity)	0.49	0.42	
Times interest earned			
(net income before taxes + interest exp./interest exp.)	11.52	12.27	
Fixed asset turnover (sales/fixed assets)	7.52	8.90	
Percentage			
Gross profit margin (gross margin/sales)	9.84	9.38	
Net operating margin (net operating margin/sales)	3.22	3.04	
Return on total assets (net income before taxes + interest/total assets)	8.88	9.64	
Return on member equity (net income after taxes/allocated equity)	29.87	29.38	

2007, showing 2015 and 2016 as the highest two years of the period.

Assets hit another record, equity drops slightly

The total asset base for the Top 100 grew by \$3.6 billion, to a new record of \$62.1 billion, from 2015 to 2016, an increase of 6 percent (Table 2). These co-ops ended 2016 with \$25.1 billion in total equity, down less than 1 percent from 2015.

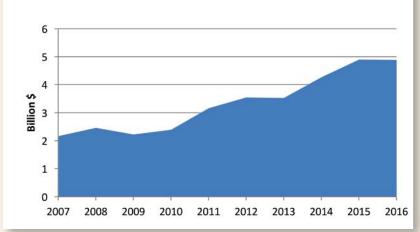
Current assets were \$32.7 billion, a drop of 2.8 percent, while investments in other co-ops increased by \$2.8 billion, rising to \$5.7 billion in 2016. Fixed assets (property, plant and equipment) increased by 8.4 percent in 2016, from \$16.4 billion in 2015 to \$17.8 billion in 2016. Other assets decreased by 6.9 percent, ending 2016 at \$5.9 billion.

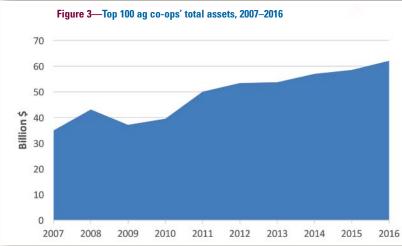
Current liabilities increased 8.6 percent, to \$24.6 billion, as did long-



Figure 1—Top 100 ag co-ops' total gross business volume, 2007–2016 200 180 160 140 120 Billion 100 80 60 40 20 0 2010 2014 2016 2007 2008 2009 2011 2012 2013 2015

Figure 2—Top 100 ag co-ops' net income, 2007–2016





Cooperative Farmers Elevator (CFE), Rock Valley, Iowa, was the "top riser" in 2016, moving up from No. 201 to enter the Top 100 at No. 61. Here, a co-op field representative provides advice to a member on his feedlot. Photo courtesy CFE

term liabilities, which rose from \$10.7 billion in 2015 to \$12.4 billion in 2016. The result was an increase in total liabilities of \$3.7 billion to \$37 billion in 2016.

Equity allocated to members dropped by 1.8 percent (to \$16.4 billion), but retained earnings rose by 2.5 percent to \$8.7 billion for 2016.

Key ratios remain solid

Table 3 provides the combined financial ratios for the largest 100 ag co-ops. Some of these ratios got slightly worse while others improved, but overall the ratios remained at relatively sound levels for 2016. Long-term debt to equity went from 0.42 in 2015 to 0.49 in 2016, reflecting increased borrowing in conjunction with decreased equity levels.

The current ratio for 2016 was slightly lower than in 2015: 1.33. The current ratio is a liquidity ratio that measures a cooperative's ability to meet short-term obligations. So, Top 100 current assets are 1.33 times current liabilities.

The times-interest-earned ratio shows how many times a cooperative can cover its interest charges on a pre-tax basis. Generally, a high ratio is positive, because it means that the co-op can meet its debt obligations. Conversely, a low value may imply trouble meeting debt obligations. However, a high ratio can also mean that the cooperative is paying down too much debt with earnings that could be used elsewhere in the business, or for revolving member equity. In 2016, the ratio was 11.5, lower than in 2015.

The fixed-asset turnover ratio measures how well a co-op uses its assets to generate income. As a general rule, those co-ops with high amounts of fixed capital, such as processing co-ops, will have a lower fixed-asset turnover ratio than some of those that primarily provide marketing or bargaining services. The Top 100 fixed-asset ratio was 7.5 in 2016, slightly lower than the 8.9 in 2015. This change reflects the increased investment in fixed assets of the Top 100.

Between 2015 and 2016, co-op gross profit margin (gross margin divided by sales revenue) increased from 9.4 percent to 9.8 percent. Net operating margin also increased, from 3 percent to 3.2 percent in 2016, given the similar returns in conjunction with the drop in expenses. Return on total assets measures co-op income (before interest expense and taxes) against total assets. This ratio dropped slightly for the Top 100 co-ops, from 9.6 percent in 2015 to 8.9 percent in 2016, due to the slight decrease in income, yet higher asset levels.

Return on member's equity measures net income after taxes against allocated equity, thus showing return to members' equity alone. In 2016, the return on members' equity was 29.9 percent, up from 29.4 percent in 2015.

Many reasons for Top 100 changes

Tracking the Top 100 co-ops' performance, year to year, provides insight into trends and economic forces impacting co-ops and their memberowners. The various financial ratios discussed may also serve as a yardstick that other co-ops can compare their own operational status against.

In 2016, despite a second straight year where total business volume decreased, the Top 100 cooperatives had high net income due to efficient operations and high service revenues. This allowed these co-ops to invest in operational assets, to use funds to shore up their financial foundation and to provide patronage refunds and revolve member equity.

The top 100 operations represent a wide diversity of agricultural businesses. As such, it is difficult to point to two or three reasons for the changes that occurred on the list in the past year. There are many reasons that a co-op's rank, total business volume, revenue, expenses and income change on a yearto-year basis; these factors will vary depending upon the sector the cooperative operates in and/or whether any major structural changes occurred.

Indeed, prices of some commodities marketed (such as grain and milk) dropped, causing decreased revenues. Demand and prices were lower for

Table 4 Cooperative types for Top 100 ag co-op analysis; co-op headquarters by State

Type of Co-op	Type Definition
Supply	Derive at least 75 percent of their total revenue from farm supply sales.
Mixed	Derive between 25 percent and 75 percent of total revenue from farm supply sales; the remainder from marketing.
Grain	Derive at least 75 percent of total revenue from grain marketing.
Dairy	Market members' raw milk; some also manufacture products such as cheese and ice cream.
Sugar	Refine sugar beets and cane into sugar; market sugar and related by-products.
Fruit and Vegetable	Generally further process and market fruits or vegetables, rather than marketing raw products.
Other	Include co-ops that market livestock, rice, cotton, and nuts.

	2016	201
ype of Co-op		
Mixed	41	3
Dairy	21	20
Grain	6	13
Supply	8	Ç
Fruit and vegetable	8	,
Sugar	7	7
Other (livestock, rice, cotton, nuts)	9	Ç
otal	100	100
tate of Headquarters (see Table 5 also)		
lowa	15	15
Minnesota	12	1
Nebraska	9	9
California	5	(
Illinois	5	(
Wisconsin	5	!
Indiana	4	4
Missouri	4	4
Ohio	4	4
Florida & Texas	3	;
Kansas		;
Other 20 States	31	33
otal	100	100

some farm supplies (such as fertilizer and petroleum). Cooperative structural changes were also once again a major force leading to larger Top 100 ag coops. The trend of cooperatives merging and consolidating continued through 2016 and into 2017, with others on the

horizon. This trend reflects the position co-ops are taking as they strive for greater economies of scale or growth.

As changes occur, co-ops will continue moving up or down, and in or out, of the Top 100, which serves as a barometer of the evolving sector.

Table 5—Top 100 agricultural cooperatives, 2016 and 2015, by total gross business revenue (Billion \$)

2016 RANK	2015 RANI		ТҮРЕ	2016 REVENUE	2015 REVENUE	2016 ASSETS	2015 ASSETS
1	1	CHS Inc. Saint Paul, Minn.	Mixed (Energy, Supply, Grain, Food)	30.532	34.696	17.318	15.228
2	2	Dairy Farmers of America Kansas City, Mo.	Dairy	13.619	13.906	3.564	3.402
3	3	Land O'Lakes, Inc. Saint Paul, Minn.	Mixed (Supply, Dairy, Food)	13.273	13.069	8.305	8.000
4	4	GROWMARK, Inc. Bloomington, III.	Supply	7.075	8.744	2.246	2.313
5	5	Ag Processing Inc. Omaha, Neb.	Mixed (Grain, Supply)	3.411	4.450	1.356	1.433
6	6	California Dairies, Inc. Visalia, Calif.	Dairy	3.002	3.182	0.935	0.918
7	8	Northwest Dairy Association/Darigold Seattle, Wash.	Dairy	2.106	2.558	0.588	0.601
8	11	Ocean Spray Cranberries Inc. Lakeville-Middleboro, Mass.	Fruit	1.708	1.712	1.706	1.710
9	10	Prairie Farms Dairy Inc. Carlinville, III.	Dairy	1.686	1.752	0.760	0.722
10	13	Blue Diamond Growers Sacramento, Calif.	Other (Nut)	1.674	1.650	0.557	0.515
11	9	Southern States Cooperative Inc. Richmond, Va.	Supply	1.602	1.904	0.389	0.457
12	12	Associated Milk Producers, Inc. New Ulm, Minn.	Dairy	1.470	1.666	0.298	0.285
13	15	Foremost Farms USA, Cooperative Baraboo, Wis.	Dairy	1.465	1.504	0.390	0.362
14	14	Select Milk Producers Inc. Dallas, Texas	Dairy	1.430	1.534	0.374	0.267
15	19	American Crystal Sugar Company Moorhead, Minn.	Sugar	1.292	1.216	0.979	0.845
16	7	United Suppliers, Inc. Eldora, Iowa	Supply	1.264	2.635	0.635	1.135
17	18	South Dakota Wheat Growers Association Aberdeen, S.D.	Mixed (Grain, Supply)	1.215	1.322	0.682	0.658
18	21	Sunkist Growers Inc. Valencia, Calif.	Fruit	1.208	1.150	0.215	0.208
19	17	MFA Incorporated Columbia, Mo.	Mixed (Supply, Grain)	1.190	1.441	0.446	0.441
20	20	Central Valley Ag Co-op York, Neb.	Mixed (Grain, Supply)	1.189	1.162	0.528	0.515

Table 5—Top 100 agricultural cooperatives, 2016 and 2015, by total gross business revenue (Billion \$)

2016 RANK	2015 RANK		ТҮРЕ	2016 REVENUE	2015 REVENUE	2016 ASSETS	2015 ASSETS
21	16	Producers Livestock Omaha, Neb.	Other (Livestock)	1.182	1.499	0.175	0.228
22	26	(CROPP)/Organic Valley La Farge, Wis.	Dairy	1.056	1.017	0.360	0.300
23	41	Landus Cooperative Ames, Iowa	Mixed (Grain, Supply)	1.017	0.719	0.499	0.292
24	22	Riceland Foods Inc. Stuttgart, Ark.	Other (Rice)	1.016	1.122	0.599	0.584
25	44	NEW Cooperative Inc. Fort Dodge, Iowa	Mixed (Grain, Supply)	0.998	0.701	0.419	0.301
26	34	Aurora Cooperative Elevator Company Aurora, Neb.	Mixed (Grain, Supply)	0.973	0.852	0.593	0.511
27	25	MD & VA Milk Producers Co-op Association Reston, Va.	Dairy	0.956	1.053	0.148	0.139
28	30	Agri-Mark Inc. Lawrence, Mass.	Dairy	0.915	0.920	0.351	0.351
29	29	Plains Cotton Cooperative Association Lubbock, Texas	Other (Cotton)	0.898	0.981	0.208	0.137
30	32	Heartland Co-op West Des Moines, Iowa	Mixed (Grain, Supply)	0.898	0.871	0.447	0.356
31	23	United Producers Inc. Columbus, Ohio	Other (Livestock)	0.896	1.089	0.030	0.034
32		Withheld upon request					
33	40	Snake River Sugar Company Boise, Idaho	Sugar	0.833	0.755	0.937	0.837
34	24	MFA Oil Company Columbia, Mo.	Supply	0.831	1.087	0.412	0.410
35	31	Michigan Milk Producers Association Novi, Mich.	Dairy	0.805	0.892	0.181	0.189
36	38	Upstate Niagara Cooperative, Inc. Buffalo, N.Y.	Dairy	0.791	0.777	0.307	0.291
37	42	Tillamook County Creamery Association Tillamook, Ore.	Dairy	0.778	0.717	0.429	0.410
38	36	Farmers Cooperative Dorchester, Neb.	Mixed (Grain, Supply)	0.760	0.833	0.287	0.292
39	37	United Dairymen of Arizona Tempe, Ariz.	Dairy	0.758	0.803	0.182	0.166
40	45	Innovative Ag Services Co. Monticello, Iowa	Mixed (Grain, Supply)	0.714	0.688	0.230	0.231

Table 5—Top 100 agricultural cooperatives, 2016 and 2015, by total gross business revenue (Billion \$)

2016 RANK	2015 RANI		ТҮРЕ	2016 REVENUE	2015 REVENUE	2016 ASSETS	2015 ASSETS
41	33	Co-Alliance, LLP Avon, Ind.	Mixed (Supply, Grain)	0.713	0.862	0.293	0.322
42	28	Staple Cotton Cooperative Association Greenwood, Miss.	Other (Cotton)	0.702	0.988	0.245	0.246
43	43	Tennessee Farmers Cooperative La Vergne, Tenn.	Supply	0.669	0.706	0.297	0.308
44	35	Farmers Grain Terminal Inc. Greenville, Miss.	Grain	0.657	0.846	0.159	0.140
45	54	United Cooperative Beaver Dam, Wis.	Mixed (Supply, Grain)	0.656	0.602	0.611	0.577
46		Southeast Milk Inc. Belleview, Fla.	Dairy	0.649	0.091	0.061	0.075
47	49	Pacific Coast Producers Lodi, Calif.	Fruit & Vegetable	0.634	0.626	0.422	0.389
48		Withheld upon request					
49	48	Citrus World Inc. (Florida's Natural Growers) Lake Wales, Fla.	Fruit	0.612	0.634	0.365	0.350
50	47	Cooperative Producers, Inc. Hastings, Neb.	Mixed (Grain, Supply)	0.602	0.641	0.248	0.251
51	53	National Grape Cooperative Association Inc. Westfield, N.Y.	Fruit	0.600	0.609	0.407	0.388
52	59	Bongards Creameries Chanhassen, Minn.	Dairy	0.568	0.536	0.160	0.148
53	62	Michigan Sugar Company Bay City, Mich.	Sugar	0.560	0.522	0.285	0.253
54	56	Alabama Farmers Cooperative Inc. Decatur, Ala.	Mixed (Grain, Plants)	0.555	0.556	0.320	0.274
55	51	First District Association Litchfield, Minn.	Dairy	0.553	0.617	0.139	0.127
56	46	North Central Farmers Elevator Ipswich, S.D.	Mixed (Grain, Supply)	0.527	0.658	0.255	0.282
57	55	NFO Inc. Ames, Iowa	Dairy	0.525	0.587	0.029	0.029
58	61	Trupointe Cooperative Piqua, Ohio	Mixed (Supply, Grain)	0.523	0.523	0.207	0.207
59	39	Equity Cooperative Livestock Sales Association Baraboo, Wis.	Other (Livestock)	0.515	0.759	0.032	0.035
60	71	Mid-Kansas Cooperative Association Moundridge, Kan.	Mixed (Grain, Supply)	0.492	0.434	0.347	0.347

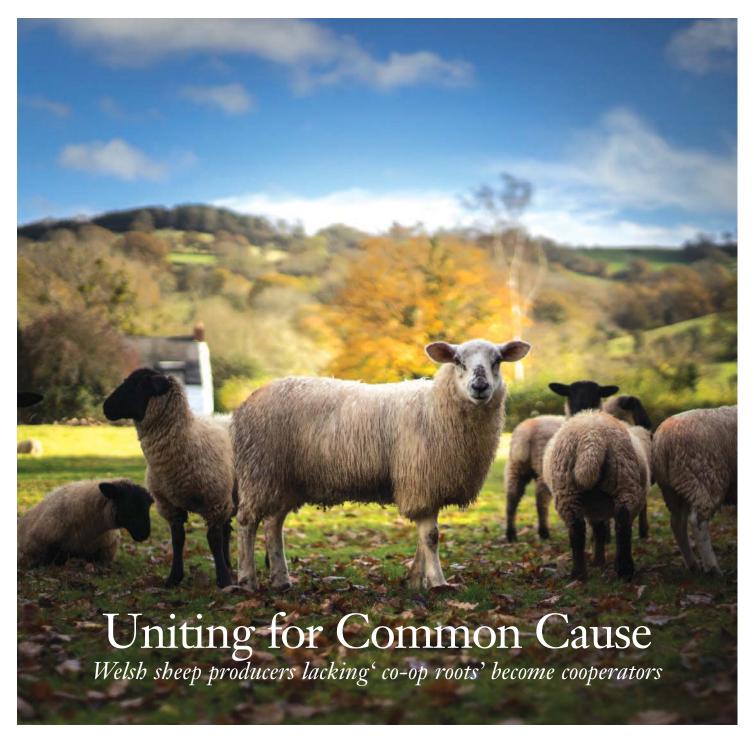
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2016 RANK	2015 RANK		ТҮРЕ	2016 REVENUE	2015 REVENUE	2016 ASSETS	2015 ASSETS
61		Cooperative Farmers Elevator Rock Valley, Iowa	Mixed (Grain, Supply)	0.488	0.153	0.177	0.055
62	88	Southern Minnesota Beet Sugar Cooperative Renville, Minn.	Sugar	0.476	0.356	0.490	0.373
63	67	Hopkinsville Elevator Company Inc. Hopkinsville, Ky.	Grain	0.467	0.456	0.202	0.215
64	60	Frenchman Valley Farmers Cooperative Inc. Imperial, Neb.	Mixed (Grain, Supply)	0.454	0.532	0.233	0.226
65		Withheld upon request					
66		Withheld upon request					
67	66	West Central Ag Services Ulen, Minn.	Mixed (Grain, Supply)	0.434	0.475	0.277	0.231
68	65	Producers Rice Mill Inc. Stuttgart, Ark.	Other (Rice)	0.418	0.489	0.213	0.223
69		Withheld upon request					
70	68	Farmway Co-op Inc. Beloit, Kan.	Grain	0.407	0.442	0.240	0.224
71	70	Farmers Cooperative Society Sioux Center, Iowa	Mixed (Grain, Supply)	0.404	0.437	0.174	0.170
72	58	Producers Livestock Marketing Association N. Salt Lake, Utah	Other (Livestock)	0.402	0.538	0.065	0.057
73	75	River Valley Cooperative Eldridge, Iowa	Mixed (Grain, Supply)	0.396	0.426	0.141	0.118
74	64	Lone Star Milk Producers Inc. Wichita Falls, Texas	Dairy	0.395	0.491	0.093	0.107
75	79	Tree Top Inc. Selah, Wash.	Fruit	0.391	0.393	0.345	0.336
76	74	Landmark Services Cooperative Cottage Grove, Wis.	Mixed (Supply, Grain)	0.391	0.426	0.232	0.245
77	81	New Vision Cooperative Worthington, Minn.	Mixed (Grain, Supply)	0.389	0.376	0.139	0.140
78	80	Sun-Maid Growers of California Kingsburg, Calif.	Fruit & Vegetable	0.383	0.384	0.230	0.229
79	57	Ray-Carroll County Grain Growers Inc. Richmond, Mo.	Grain	0.382	0.555	0.169	0.171
80	77	Sunrise Cooperative Inc. Fremont, Ohio	Mixed (Grain, Supply)	0.376	0.412	0.182	0.163

Table 5—Top 100 agricultural cooperatives, 2016 and 2015, by total gross business revenue (Billion \$)

2016 RANK	2015 RAN		ТҮРЕ	2016 REVENUE	2015 REVENUE	2016 ASSETS	2015 ASSETS
81	83	Swiss Valley Farms Cooperative Davenport, Iowa	Dairy	0.373	0.373	0.115	0.115
82		Withheld upon request					
83		Valley Wide Cooperative Inc. Jerome, Idaho	Supply	0.360	0.286	0.214	0.171
84	73	Heritage Cooperative, Inc. West Mansfield, Ohio	Mixed (Grain, Supply)	0.355	0.428	0.145	0.148
85	92	Western Sugar Cooperative Denver, Colo.	Sugar	0.353	0.343	0.357	0.247
86		Central Farm Service Owatonna, Minn.	Mixed (Grain, Supply)	0.351	0.261	0.262	0.125
87	93	Effingham Equity Effingham, III.	Mixed (Supply, Grain, Livestock)	0.345	0.341	0.246	0.205
88	89	Key Cooperative Roland, Iowa	Mixed (Grain, Supply)	0.344	0.352	0.134	0.128
89	76	Premier Cooperative, Inc. Champaign, III.	Grain	0.342	0.415	0.126	0.156
90	87	First Cooperative Association Cherokee, Iowa	Mixed (Grain, Supply)	0.338	0.357	0.143	0.115
91	90	Gold-Eagle Cooperative Goldfield, Iowa	Mixed (Grain, Supply)	0.335	0.352	0.119	0.111
92	100	Five Star Cooperative New Hampton, Iowa	Mixed (Grain, Supply)	0.333	0.311	0.106	0.105
93		Withheld upon request					
94	78	Gateway FS Inc. Red Bud, III.	Mixed (Grain, Supply)	0.331	0.399	0.116	0.116
95	94	Ag Valley Cooperative Non-Stock Edison, Neb.	Mixed (Grain, Supply)	0.330	0.339	0.192	0.185
96		United Farmers Cooperative Winthrop, Minn.	Mixed (Supply, Grain)	0.315	0.260	0.146	0.141
97	96	Meadowland Farmers Cooperative Lamberton, Minn.	Grain	0.308	0.335	0.157	0.156
98	82	Harvest Land Co-op Richmond, Ind.	Mixed (Supply, Grain)	0.307	0.374	0.134	0.132
99		MaxYield Cooperative West Bend, Iowa	Mixed (Grain, Supply)	0.303	0.269	0.179	0.111
100	86	Saint Albans Cooperative Creamery Inc. Saint Albans, Vt.	Dairy	0.303	0.357	0.049	0.055

Revenue corresponds to total gross business volume = sales + service and other operating income + patronage received + non-operating income.



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What goes through farmers' minds as they make the decision to commit to a cooperative? How do farmers — whose love of their work and way of life often encompass the independence of the job and being their own boss — reconcile personal preferences with collective action? In short, how do farmers traverse the gulf from independence to cooperation?

This article examines how 10 British hill farmers, primarily small-scale sheep producers, went from being independent and autonomous to being cooperators.

In 2011, with the help of a facilitator, the producers formed an agrienvironmental co-op, Pontbren Farmers Group (PFG), located in Wales (Prager, 2015:61). Such co-ops are encouraged by national and European Union agricultural policies.

This article draws on studies of

Pontbren Farmers Group, conducted from about 2010 to 2017, prior to Great Britain's decision to exit the European Union (EU). The agricultural policies of the EU are highly centralized, encompassing subsidies and a degree of regulatory authority.

The initial and primary motivation for forming a co-op was to promote environmental stewardship by reducing overgrazing of hedges and forests and dependence on an intensive production treadmill (so-called 'productivist agriculture').

"By planting trees and restoring neglected woods and hedges, it allowed the farmers to have hardier breeds of sheep which are better suited to graze upland areas," the BBC (British Broadcasting Corporation) has reported. The Woodland Trust says the planting also had the "unexpected benefit of reducing water run-off from grassland [during] heavy rain, leading to...important new evidence of the role trees can play in flood control."

One of the aims of the group which farms about 2,400 acres, of which nearly 5 percent is woodland, pond and hedgerow — is to improve shelter for livestock, according to the BBC. The group has also created numerous ponds.

Becoming better stewards of land

The Pontbren Farmers Group has been, and continues to be, a vehicle for meeting important public policy objectives, notably environmental stewardship.

From the beginning, Pontbren Farmers Group took a group perspective. The first step was determining how member firms were linked in a mutually reliant or interdependent manner and interpreting this knowledge in terms of environmental improvements (Wynne-Jones, 2017: 6). Accordingly, policymakers have looked to the Pontbren Farmers Group as an indicator of whether resilient production systems developed on individual farms — such as planting trees and hedges — can generate economies of scale by being extended across several member farms to a 'landscape level' (a British term for a type of farming that preserves ecosystems). The alternative was a piecemeal, farm-by-farm, approach

The Pontbren Farmers Group can be considered a success. It has received substantial national and international recognition for its work to support sustainable catchment management. Discussion below examines how farmers

evolved from prizing (emphasing) a culturally-endorsed independence to understanding and valuing collective action. This article draws on the case study of Pontbren Farmers Group by British geographer Sophie Wynne-Jones (2017).

Why form a co-op?

Pontbren farmers felt that they had nothing to lose by taking part in a coop. The advantages could enable them to continue to move forward despite rock-bottom lamb prices and "notable failures in their efforts to secure more financially advantageous contracts with supermarket buyers and other lucrative retail avenues" (Wynne-Jones, 2017:2). Moreover, farmers were dissatisfied with existing agri-environmental policies, finding them too autocratic, inflexible and often not relevant to their farming systems (Mills, et al, 2010:156). Forming a co-op would give farmers a say, as a group, in how improvements, such as herd size and environmental management, were implemented. An agri-environmental co-op also had the potential to help farmers brand their products, based on high environmental credentials and product quality

Negotiating value conflicts

It's not clear how cooperative outcomes are affected by differences in individual and collective priorities. Certainly, there are many forces economic, social and philosophical which work against collective action. For example, levels of formal cooperation are much lower in the United Kingdom (UK) than in most other EU countries (Wynne-Jones, 2017:3). This is, perhaps, not surprising. After all, the prototypical capitalist was the British philosopher Adam Smith, who argued the merits of creating an economy where "Every man...is left perfectly free to pursue his own interest in his own way." (The Wealth Of Nations, Book IV, Chapter IX, p. 687, para. 51).

Both British and other European scholars representing various disciplines (geography, anthropology, environmental studies, etc.) have taken a keen interest in the Pontbren Farmers Group as an example of cooperation which got off the ground despite farmer preferences for independence. This preference reflects the disproportionate value and visibility Western culture accords individual initiative, creativity and entrepreneurial drive compared with collective endeavors.

Paradoxically, the UK's limited experience with collective action may make it a good "laboratory" for examining what really happens regarding how farmers think and act when starting a cooperative from scratch. When the co-op was started, only one PFG member was familiar with co-op ideology — the belief that a group can achieve more than an individual in many pursuits. Those who ultimately endorse cooperation in the UK will likely stand out as exceptions to the norm. In doing so, they are to some degree going against the grain of what can be considered Adam Smith's legacy: the free-ranging capitalism called "neoliberalism," which permeates most of the world today.

Neoliberalism emphasizes the value of letting individuals and markets operate freely, largely unobstructed by regulation. The cultural ascendency of neoliberal economic philosophy is reflected in comments such as: "wealth creation is the one and only way to value oneself and one's community" (Stock and Forney, 2014).

The pivotal importance of producer independence as a possible obstacle to collective action led to the following core question:

Can farmers who have customarily identified themselves as independent and autonomous undergo a form of "social learning" through exposure to cooperation that encourages them to self-identify as "cooperators?" Or, is autonomy such an ingrained trait that it effectively prevents farmers from valuing and participating in collective action?

These questions reflect the contemporary anthropological notion of "performativity," meaning that one assumes an identity by enacting it. Thus, If I act like a cooperator, who can say I'm not one?

"The concept of 'performative' suggests that identity is not a fixed, once-and-for-all decision, but a fluid concept that is continuously being enacted and reinforced through choices and experiences" (Hogeland, 2015:70). Sociologist Patrick Mooney (2004) says much the same thing: cooperation is learned through the act of cooperating.

The concept of performativity adds something new to cooperative studies: the idea of understanding cooperation as a process — not simply as something summarized by a series of discrete

"Lots of things [are] discussed in the literature about the autonomous, independent farmer — [for example] being a good farmer. The identity norm of that is often about being self-reliant and selfwilled. Many of the [Pontbren Farmers] group showed alignment with that. . . It wasn't that that was superseded completely, but they began to explore and develop other norms around being a good neighbor and being stronger together" (Wynne-Jones, author communication, 8-11-17).

Change occurs through the group

Seeing cooperation as a process or experience that unfolds over time gives farmers a point of entry to consider alternatives to independence and autonomy.

As Wynne-Jones (2017: 7) observes,

familiarity] and norm building . . . of cooperative practice — so paying attention to others needs, considering them, listening, simply meeting to engage, having a process within the meeting through which the group can interface and enable collective communication. These were skills some of them had but they were refined and practiced through their group building and working. By doing group things regularly they got better at it, they learned how to be a group and what that required of them as an individual" (Wynne-Jones, author communication, 8-11-17).

The group as process

Co-op members of any ideological stripe will undoubtedly bump up against individual preferences. Recent research about collaborative partnerships acknowledges the potential for this

Changes in member values gradually occur over time as members are exposed to — and learn to "hear" — different points of view.

events, such as the quarters and years the co-op made money, annual fluctuations in co-op crop or supply volume, etc. Seeing events as a process that is, using a process-based or so-called "processual" approach to analyzing change — is part of the intellectual tool-kit of anthropology.

In the nuances of closely observed interactions between co-op members, scholars hope to understand how farmers' motivations for cooperation, especially tensions between personal and collective goals, are expressed, negotiated and resolved.



The initial impetus behind the Pontbren Farmers Group co-op (members seen here) was to promote environmental stewardship and to help producers survive during a time of "rock bottom lamb prices."

Becoming cooperative

Wynne-Jones (2017) uses the term "emergent" to refer to the way a co-op comes into being and coalesces as a group. It is within the group process that farmers' culturally-derived preferences for autonomy and independence are modified or transformed. She explains:

"Initiating the group created a mechanism through which collective interface and exchange could be explored and made routine, and allowed [producers] to suspend norms to which they had become accustomed."

That is, "the group allowed [producers] to develop habits and practices which facilitated the normalization [or

occurring because environmental policy is formulated in complex institutional systems. "In policy domains, the [participants] are usually individuals who represent governmental, nongovernmental or private organizations; sometimes individuals participate on their own behalf. [They] participate in different institutions in order to achieve their policy goals, which may include a mix of altruistic and self-interested motivations" (Beunen, et al., 2017; italics added). Nevertheless, Pontbren

example of bottom-up, farmer-led cooperation that strives to respect and acknowledge the forces which encourage producer autonomy. How is this done?

Farmers Group is forwardthinking and serves as an

As an institution, a cooperative is not about an individual, but about a group. Transformation occurs through the group. Changes in member values

gradually occur over time as members are exposed to - and learn to "hear" different points of view.

By themselves, conflicting values are not a bad thing. Indeed, Mooney (2004) considers conflicting values as "productive frictions" that can enhance collective action through the act of working out differences.

Conclusions

Thus far, economic inducements, e.g., the economies of scale attained by moving from farm to landscape level, have been easier to identify than the rewards of collaborating. Will it be possible to generate additional scale economies insofar as co-ops like Pontbren Farmers Group systematically advance to a regional level?

A strong motivation for increasing scale beyond the landscape level is that the benefits of a single collaborative partnership can spread out to influence transaction costs throughout the system. Moreover, policymakers recognize that "collaborative partnerships may be better than command-and-control [top-down regulatory] institutions for reducing the transaction costs of managing ecosystems or other diffuse problems like non-point source pollution" (Lubell, 2015:43).

1. The Pontbren Farmers Group case study demonstrates the pivotal importance of getting sufficient equity in a new co-op through farmer equity and/or outside

What is striking about the group is that there is little indication that unlike the U.S. model — equity investment from producers was a requirement. U.S. co-ops can apply for funds available through USDA's Rural Development grant programs, but significant producer-generated equity is still required. The formative experience of Pontbren Farmers Group suggests that, in the future, government funding could offset all or part of the need for producer equity, especially when nascent co-ops will contribute directly to national policy objectives such as

improvements in land utilization.

2. The critical need for funding highlights the need for scholars to identify and articulate the benefits of co-op participation, both economic and non-economic.

Without grants from Wales and the European Union, it is unlikely the Pontbren Farmers Group would have had the resources to fund environmental improvements. This has been a good time for funding. Wynne-Jones (2017) notes that greater funding and support for nascent groups is being channeled through the EU Common Agricultural and Rural Development Programmes to encourage cooperative and collaborative practices.

3. Mining case studies like the Pontbren Farmers Group from an interdisciplinary angle offers a more comprehensive view of actual and potential benefits than economic analysis alone could achieve

As Wynne-Jones indicates, there is little solid information about cooperative benefits in the EU beyond noting that agricultural co-ops lead to gains or incomes farmers could not achieve on their own. This is recognized among European researchers. Wynne-Jones is one of several British and European researchers with varied academic backgrounds (i.e., geography, anthropology, environmental studies, etc.) concerned with identifying the "more than economic" or "economic and more" benefits associated with cooperation.

4. Discovering and articulating the full range of benefits in co-op participation is an important challenge for researchers.

What are such non-economic advantages? In her article, Wynne-Jones notes that farmer emotions played an essential role in aligning [farmers] with cooperative norms. This is not a thing that economists think about but clearly it was of value as she explains:

"It wasn't all a rational equation of 'if I do this co-operative thing, it will be better

for my business...and help me in certain ways.' It was more reactive [and] affective...more bodily than cerebral. They felt better and then realized that being in a group was good for them emotionally, also. As I say in the article — this was something that came out in interviews as much as it was something they had predecided (realized) and wanted to communicate as a benefit. . . " (Wynne-Jones, author communication, 8-11-17).

Similarly, she also observed, "People have to renegotiate themselves, their habituated norms, and what they perceive to be expected actions and orientations, as a primary arena for change to occur . . . This is . . . about recomposing . . . an identity norm." In practice this meant:

"So what I am saying here is that figuring out how to do cooperation is more than learning a skill — it is a skill — but it also requires you to reconsider how you think about yourself, who you are, what is important to you, and how you see yourself and create your sense of identity in relation to others" (Wynne-Jones, author communication, 8-11-17).

Getting a handle on how producer and co-op identities are co-constructed (or "co-constituted") and reinforce one another is an important research need. According to the BBC, PFG members ultimately hope their efforts reduce their production costs, make their farms more sustainable and pave the way for the next generation of farmers.

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Learning from Food Hub

Closures

Hub's sales growth could not offset high operational costs

By Diane Del Signore and James Barham

Editor's note: Del Signore is the executive director of the Community Alliance with Family Farmers; Barham is a food systems specialist with the USDA Rural Business-Cooperative Service. The second article in this series was published in the July-August issue of this magazine.

This article is excerpted from the recently published report "Running a Food Hub, Volume 4: Learning from Food Hub Closures," and incorporates portions of a case study, "Making the Invisible Visible: Looking Back at Fifteen Years of Local Food Systems Distribution Solutions" by Community Alliance with Family Farmers. The full report can be read at: http://caff.org/wp-content/uploads/2010/07/CAFF-Lessons-Local-Distribution-102814.pdf



Food Hubs represent a critical link in the nation's rapidly developing local foods market. They help small- and mediumsize producers reach a much wider market than they could on their own by

aggregating and distributing source-identified food products, primarily from local and regional producers.

Food hubs are especially important in helping to meet the needs of farmers who lack the capacity to meet the specific volume, quality and consistency requirements of larger scale buyers, such as retailers, wholesale distributors and institutions.

The survival rate for food hubs has generally been significantly better than for the small business sector as a whole, but some food hubs have had to close, for a variety of reasons. The intent for this series of articles, and the larger report from which they have been excerpted, is to identify the major factors that contributed to the closures

of six food hubs. Our hope is that others can gain from the experiences of these food hubs and avoid making similar errors.

In this article, we look at the case of Growers Collaborative in California. While this business failed, there are still about 360 food hubs in the United States, three-quarters of which were established during the past decade.

While not all of the food hubs studied for this report were incorporated as cooperatives, most of them can be viewed as "quasi-cooperatives," in that they share similar business structures with co-ops, including collective marketing and supply chain transparency. Food hubs also share basic cooperative values, such as shared risk and the equitable distribution of benefits.

Beginnings

California Alliance with Family Farmers (CAFF) is a nonprofit that has worked since 1978 to advocate for small-scale farmers, to promote the purchase of local food, and to help farmers increase their income and sustainability. In 2000, the Davis Joint Unified School District asked CAFF for help to identify local farmers who could deliver produce to Davis, Calif., schools.

As a result, CAFF began playing a "forager" role, actively procuring product (mainly produce) from farmers who could deliver to the school district, and providing the district with information about product availability, volumes, sources and prices. CAFF oversaw the billing and collecting of receivables from the district and paid the farmers separately. It did not charge the school district for services.

By 2004, the Davis School District was purchasing directly from nine farms, with CAFF's assistance. However, the transaction costs of coordinating with so many farms at the same time made it difficult to manage deliveries and invoices, school district officials said. Instead, the district wanted a consolidated delivery. Additionally, more school districts and other institutions began approaching CAFF about purchasing local produce from family farms. CAFF responded by founding the Growers Collaborative food hub in 2004, funded through

a \$210,000 USDA Value-Added Producer Grant.

For the next several years, Growers Collaborative oversaw the aggregation, marketing and distribution of local produce for institutions in both Davis and Ventura County. It drove its own trucks to purchase, pick up and aggregate product from family farms, then sold and delivered it to institutional and retail customers. Customers included Kaiser Permanente hospitals, Bon Appétit Management Co. and area universities. Growers Collaborative used existing cooler space from local growers and a nearby food bank as staging sites.

CAFF's executive director and program manager supervised three dedicated staff members and one shared bookkeeper for both the Ventura and Davis locations.

Challenges along the way

In 2006, as sales were continuing to grow, Growers Collaborative incorporated as an LLC under the umbrella of CAFF to see if it would succeed as a for-profit business model. However, without a sound plan for long-term financial viability, private investors were skeptical of the enterprise's ability to be profitable, and Growers Collaborative was unable to secure private investments. Growers Collaborative quickly resumed financing through public grants and CAFF's own unrestricted funds.

Gross sales of Growers Collaborative continued to grow, reaching more than \$1 million (combined for both sites) annually. It oversaw 122 sales accounts and sourced from more than 180 farmers in over 30 counties in California. Unfortunately, the Collaborative's revenue was not sufficient to cover the fixed costs of operation, such as labor, truck maintenance and other equipment. This was in part due to its

Growers Collaborative

Locations: Ventura County, Central Coast (Salinas, Santa Cruz), Davis and Oakland, Calif.

Business structure: Nonprofit, LLC, to nonprofit/private partnership

Business model: Multiple business lines over time. Production and packing assistance, marketing, distribution and branding for institutional sales as well as direct-to-retail outlets.

No. of producers served: ~180

Financing: Federal and private grants, Community Alliance with Family Farmers (CAFF) own nonprofit, unrestricted

Sales growth: Grew to \$1 million in total sales at peak in 2009 Established: 2004

Closed: 2011, but ongoing as part of CAFF's Farm to Market Program

substandard facilities, equipment and trucks, which broke down frequently.

The Collaborative did not have the equipment, infrastructure or ordering systems to accommodate institutional buyers, who expected homogenous, consistent, fresh-cut and packaged product year-round.

While Growers Collaborative staff had some farming experience, no one had real produce distribution experience. Furthermore, the 2008 recession slowed overall sales growth. By 2009, CAFF decided to stop operations in Ventura and Davis, since the Collaborative was unable to break even without continued grant subsidies.

Instead of closing down altogether, Growers Collaborative restructured into a private partnership with L. Cotella Produce, a wholesale produce company in Oakland, Calif., to form "Thumbs Up, a Growers Collaborative." This was a private, family-owned business that sold local product to larger distributors.

Thumbs Up owned and managed business operations, using its own warehouse and equipment to source, aggregate and deliver produce. Thumbs Up also used its own proprietary software system to allow customers to access all pertinent sourcing information for a specified product, including the farm and location.

CAFF, in partnership, provided support in branding (under its established "Buy Fresh, Buy Local" campaign), marketing, and contract negotiations with major distributors to offer "Buy Fresh, Buy Local" products through purchasing from Thumbs Up.

Decision to close

Unfortunately, Thumbs Up was never able to reach the scale necessary to achieve viability. Without large enough volume, the transportation costs of working with multiple small farms and driving long distances to pick up and deliver small amounts of produce were too high. Additionally, as local produce became more desirable, mainline distributors began going directly to the farms themselves.

Given that these distributors were gradually increasing their capacity to handle and market local specialty items, from a business standpoint, it made sense for them to try to do this directly, rather than going through an aggregator. Unable to keep up with costs, Thumbs Up shut down in 2011, along with Growers Collaborative's operations.

While the food hub model effectively closed, CAFF shifted gears once again in 2012 by establishing its "Farm to Market" program. This new strategy involves CAFF acting as a food value chain "facilitator," connecting farmers to existing mainstream distributors as well as directly to buyers, rather than running a parallel distribution system of its own. In this capacity, CAFF plays a key role in promoting the increased supply and demand of local food by creating shared value among producers and consumers.

This model is currently being implemented in Santa Clara, the Bay Area, the North Coast, Sacramento Valley and Humboldt County, with a CAFF staff person coordinating efforts in each region. In some cases, CAFF connects famers directly to institutional and retail buyers and assists with production planning. In others, CAFF facilitates the aggregated purchasing of local products by working with

institutions to aggregate demand, farmers to coordinate supply, and distributors to procure, source identify and label local products.

CAFF also supports institutions, farmers, and food service leaders with resources and technical assistance, to assist in the growth of both supply and demand of local foods.

Lessons Learned

1. Know your context and assess your current resources.

It is important to understand the gaps in the local food distribution landscape and whether existing resources and infrastructure can be used to fill those gaps. Further, new food hubs take a substantial amount of capital investment and time to develop. An assessment of the current distribution landscape, agriculture economics and existing infrastructure is critical to determining whether or not new capital investment is needed.

California agriculture is unique because the state produces high volumes of specialty crops year around. In addition to large, corporate-owned distributors, midsized regional businesses and family-owned operations also aggregate and distribute produce in California. Indeed, many farmers have been aggregating product and are acting as food hubs themselves.

For example, Coke Farms in San Juan Bautista, Abundant Harvest Organics in Kingsburg, Capay Valley Farm Shop in Esparto and Harvest Santa Barbara are technically food hubs that add value to the supply chain by aggregating and distributing product from local farmers. Therefore, in California, new facilities and stand-alone aggregation hubs, unless farmer owned and operated, may not be viable enterprises, as they may duplicate existing efforts.

2. Work with multiple stakeholders to bring about long-term food systems change, but let farmers lead.

It is important to foster a diverse, committed set of stakeholders; commitment and willingness to work through challenges from both institutional buyers and farmers is critical. Nonprofit organizations, institutional partners and individuals trying to cultivate food value chains should think carefully about what they have to offer and where best to apply their skills and expertise.

CAFF realized that its biggest contribution to the food value chain is as value chain coordinator, connector and educator, promoting increased supply and demand of local food. Farmers, on the other hand, understand the more nuanced dimensions of their growing seasons.

Farmer-led models may be more successful for local food aggregation hubs, in which farmers work together to aggregate their product for mutual benefit, and share in the costs and/or responsibilities of distribution. Each stakeholder must understand its own role and expertise in meeting current needs.

3. Focus on your business's core competencies. Work collaboratively to modify existing infrastructure and foster supply chain values.

When establishing a new, stand-alone food hub is not feasible, would not be efficient, a more effective strategy for local food system development is working collaboratively to modify existing infrastructure. Focus on fostering supply chain values among current food system stakeholders and on educating the community about local food.

CAFF is a well-known, established and trusted organization in the local food and farming community. Therefore, CAFF was most successful when leveraging what it was already good at: inspiring institutions to buy more local produce, convincing other distribution companies of the potential benefits of local food, increasing education and knowledge of local food purchasing and marketing, and connecting prospective buyers with local farmers who can meet their needs.

Thumbs Up, as an established wholesale produce supplier, understood the produce distribution landscape and was already successful in building source identification of products into its day-to-day operations. By demonstrating the capability of sourcing, identifying and tracking produce from local farms, the practice has now become more common as a growing number of distributors have adapted their tracking systems to make it easier for purchasers to choose local items.

Each business and organization within the value chain should understand its core business and leverage its resources with other stakeholders to promote its values along the supply chain. ■

Newsline

Co-op developments, coast to coast

Send co-op news items to: dan.campbell@wdc.USDA.gov



Cooperative Festival, sponsored by the National Cooperative Business Association CLUSA International. From left: Anne Hazlett, leader of USDA Rural Development, meets a cranberry grower at the Ocean Spray exhibit; the U.S. capitol can been seen on the horizon through one of the festival entrances. Photos courtesy NCBA CLUSA. Learning new skills at the ACE Hardware exhibit. USDA photo by Preston Keres

Co-op fund to aid hurricane relief in Puerto Rico

Hurricane Maria devastated Puerto Rico, including destruction of a majority of the island's power grid, which will take many more months, possibly years, to fully rebuild. Mildred Santiago, president of the Cooperative League of Puerto Rico, reports that the situation is dire: "There are lines for food, gas, ice and for taking out cash," she said in mid-October. "The landscape is devastated and the mood is falling every day."

Even after the immediate needs for food, water, shelter, power and medical aid have been met, cooperative businesses on the island will need to

rebuild, according to the Cooperative Development Fund (CDF).

In one village, flooded with seven feet of water, the local credit union is in desperate need of a generator so that the large rural population it serves can access their cash. Cooperatives also report a need for basic items, such as batteries, lanterns, canned food and bottled water, CDF reports.

To help island co-ops get back on their feet, co-ops and members can donate to the CDF Disaster Recovery Fund. CDF will coordinate with local organizations on the island to get assistance to cooperatives in need; 100 percent of the donations will go to disaster recovery. CDF does not use

disaster recovery funds to pay for any of its operating expenses or fund administrative costs.

For more information about the fund, visit: www.cdf.coop, or write to: CDF, 1775 Eye St NW, 8th Floor, Washington, DC 20006.

NCFC annual meeting in New Orleans, Feb. 7-9

The National Council of Farmer Cooperatives (NCFC) will hold its 89th annual meeting Feb. 7-9 at the Hilton Riverside Hotel in New Orleans. The meeting will begin with the full-day Government Affairs Conference. The Directors Education Conference also begins the afternoon of Feb. 7, and

continues the next two days. The Legal, Tax and Accounting Conference will begin the morning of Feb. 8 (Thursday) and run through mid-day Friday.

In addition to a full slate of sessions that delve into critically important issues for farmer co-ops, the meeting will provide ample opportunities to catch up with fellow co-op leaders. For program details and registration information, visit: www.ncfc.com, or call 202-626-8700.

DFA acquires Cumberland Dairy

Dairy Farmers of America (DFA), the nation's largest dairy cooperative, has announced the acquisition of Cumberland Dairy, a family-owned processor of ultra-pasteurized dairy products in Bridgeton, N.J. Cumberland Dairy was founded in 1933 by Charles Catalana as a small milk



These Cumberland Dairy employees are now part of the Dairy Farmers of America family.

plant behind his family home. The company, which has remained under the family's ownership for 85 years, experienced tremendous growth through the 1970s and 80s and today has a workforce of 180.

Cumberland Dairy serves some of the nation's top quick-service restaurants, convenience and grocery chains, wholesale food distributors and casual restaurants. Acquisition of Cumberland Dairy aligns with DFA's strategy to expand the cooperative's commercial investments and ownership into extended shelf-life processing.

"This acquisition represents a commitment by our farmer-owners to expand our investments in processing and to continue to grow the U.S. dairy industry," says Rick Smith, president and CEO of DFA, "The Catalanas'

The annual Index of articles that appeared in Rural Cooperatives magazine during 2017 will appear in the January-February 2018 issue.

values and passion for the industry align closely with those of our cooperative, and we believe this is a tremendous opportunity to expand upon the foundation of quality products and superior service already in place at Cumberland Dairy."

The business will continue to operate as Cumberland Dairy, and employees will retain their current

> positions. The Catalana family and existing management team will continue to manage all day-today operations, including

customer relationships, milk procurement and production.

Innovation Foods LLC, a juice and beverage manufacturer founded by the Catalana family in 2008, is not included in this transaction. It will remain independent and wholly owned by the family.

Dakota co-op members approve merger

Member-owners of North Central Farmers Elevator (North Central) and Wheat Growers voted in late September to approve the unification of the two cooperatives. North Central members voted 911 to 657 for the merger, while Wheat Growers members voted 1,598 to 954 in favor of unification. The new cooperative is expected to begin operations Feb. 1.

A merger effort two years ago between the same co-ops narrowly failed to gain the needed support. More education and outreach about the

merger by the co-ops — combined with lower grain prices and the impact of drought that have led to the need for increased operational efficiencies contributed to the differing outcome of the vote this time, according to press reports.

North Central, headquartered in Ipswich, S.D., was established in 1915 and today has operations at 22 locations that serve more than 2,400 memberowners in north-central South Dakota and south-central North Dakota. Wheat Growers, based in Aberdeen, S.D., is a grain and agronomy co-op established in 1923 and today serves more than 5.100 active member-owners in eastern North and South Dakota.

"We listened to our members, and it was based on their comments that we brought this to a vote of the membership," says Rick Osterday, North Central's board president. "We're pleased that they concluded that the unification of both cooperatives can bring additional value to members and ensure the long-term relevance and viability of a unified cooperative."

"This is a merger of two financially strong, legacy-rich cooperatives," adds Wheat Growers Board President Hal Clemensen, "Our mission now is to seize this opportunity to build a new, even stronger cooperative better able to serve our member-owners. As we go forward, we will create new efficiencies,



Loading grain at South Dakota Wheat Growers' facility in McLaughlin, S.D.

take advantage of new technologies and continue to build a strong employee team — all in order to create more value for our members."

The focus of the cooperatives has now turned to planning integration efforts, including developing a name for the new cooperative. To learn more, visit: www.ncfe.coop, or www.wheatgrowers.com.

Co-op leader Stan Dreyer dies

Stanley W. Dreyer, regarded as a model cooperative leader and mentor to generations of fellow cooperators, died in October at his home in Springfield,



Va. He leaves behind a profound and lasting impact on the cooperative world.

Dennis Johnson, former president of St. Paul Bank, where Dreyer began his career in cooperative finance, called him "America's co-op ambassador to the world." He noted that Dreyer travelled the world as a tireless champion of cooperative development.

Dreyer was raised in Brighton, Colo., where as a youth he worked in a local co-op supermarket and participated in 4-H. He went on to serve as president of the Cooperative League of the United States (now National Cooperative Business Assoc. CLUSA International), was a board member of the International Cooperative Alliance and was senior officer of the National Cooperative Bank.

Dreyer was involved in the formation of a large fertilizer cooperative in India and was an advocate for the formation of the Southern Federation of Cooperatives. He was also a guiding force behind the formation of the National Cooperative Bank and a founder of the Cooperative Hall of Fame, to which he was

inducted in 1997.

Although Dreyer's involvement in cooperative development crossed sectors and continents, colleagues agree that his most urgent energies were spent closing gaps in cooperative finance by creating a national cooperative bank. Early in his tenure as president of NCBA CLUSA, Dreyer commissioned a study on the need for a non-agricultural cooperative bank to serve non-ag cooperatives.

After five years of relentless advocating and recruiting influential supporters, Dreyer and his team were finally successful. Congress passed the 1978 Bank Act, creating the first-ever bank for consumer cooperatives. Ed Jaenke, former governor of the Farm Credit Administration, called it Dreyer's "most historic and greatest contribution to the cooperative idea."

"Stan made a real and lasting difference," says Rich Larochelle, chair of the Cooperative Development Foundation's board. "He radiated co-op values. It would be difficult to find a kinder or more genuine person. He was inspiring and a giant in the co-op world."

Donations in Dreyer's memory can be made to benefit co-op development and education through the Cooperative Development Foundation's Stan Dreyer Memorial Fund. For more details, visit: www.cdf.coop.

Grain safety saves lives

Nearly every year, Iowa experiences at least one grain suffocation. The same is true in most grain-producing states. Thus, a key message for Farm Safety and Health Week focuses on grain safety.

"Most people don't truly understand the tremendous force grain has unless they've experienced it," says Charles Schwab, farm safety specialist with Iowa State University Extension and Outreach. "The misconception for most people is that they can easily be rescued once they are entrapped in flowing grain."

As a victim sinks deeper and the

grain exerts more force, the magnitude of force holding the victim in grain can easily exceed 2,000 pounds.

Even when the grain has stopped flowing, it is difficult to help a submerged victim escape. Even those with great upper body strength can't pull themselves out if they are buried to the chest. The force holding the submerged victim in the grain is too much. Trained first responders don't pull victims out of flowing grain. They labor with great effort digging each one out as the hours tick by.

Flowing-grain suffocations are preventable, and there are several ways to prevent them. Always lock all access doors to grain storage structures. Never allow anyone to play or ride on grain wagons or grain semi-trucks. Lock out power to all types of grain-handling equipment when entering storage bins. Notify a second person of where you are at all times when loading or unloading grain.

Helping others understand the dangers associated with flowing-grain and entrapment hazards that often lead to suffocation is the first step. Do your part putting farm safety into practice this fall by sharing your rules for handling flowing-grain hazard and seeing that everyone follows those rules.

VAPG application deadline Jan. 31

USDA's Rural Business-Cooperative Service is accepting applications for the Value-Added Producer Grant (VAPG) program through Jan. 31, 2018. About \$18 million is currently available.

The VAPG program helps agricultural producers, including cooperatives, enter into value-added activities related to the processing and/or marketing of new products. The goals of the program are to generate new products, create and expand marketing opportunities, and increase producer income.

Applicants may receive priority if they are a beginning farmer or rancher, a socially disadvantaged farmer or rancher, a small or medium-sized farm

or ranch structured as a family farm, a farmer or rancher cooperative, or if they are proposing a mid-tier value chain project. Grants are awarded through a national competition.

The maximum for VAPG planning is \$75,000, or \$250,000 for a working capital grant. This is a matching grant program, so applicants must provide 50 percent of the total cost of a project.

Examples of planning activities include conducting feasibility studies and developing business plans for processing and marketing the proposed value-added product. Examples of working capital expenses include: processing costs, marketing and advertising expenses, or some inventory and salary expenses.

For more information, contact your closest USDA Rural Development office, or visit: www.usda.gov and search "value added producer grants."

Co-op economist Roger Wissman dies

Roger A. Wissman, who worked for 35 years as an agricultural economist with USDA's Cooperative Services, died Oct. 8 in Fort Wayne, Ind., at age 78. While at USDA, Wissman's work proved to be a key resource for the nation's agricultural cooperatives, especially in the area of equity redemption. He completed important studies on that topic in 1983 and 1993.

He was also a lead author on studies that developed financial profiles of ag cooperatives in 1987 and 1997, studies which have been widely used by cooperatives to benchmark their own performance, as well as used by other researchers.

Even during his retirement years, Wissman still worked on cooperative equity redemption and financial profile research, volunteering to help review USDA's studies on those topics in 2010 and 2011.

Having grown up on a family farm in Indiana, Wissman clearly saw the advantages cooperative businesses held for farmers, large and small, and committed his life's work to helping to

strengthen the nation's co-op sector.

Wissman graduated from Purdue University with a bachelor's degree in Animal Science and later funded a scholarship for agricultural students there. He went on to earn a master's degree in Agricultural Studies from Oregon State University (OSU).

He was a veteran of the U.S. Air Force Air National Guard, including duty overseas.

Doug O'Brien to lead NCBA

Doug O'Brien will succeed Judy Ziewacz as president and CEO of the National Cooperative Business Association CLUSA International (NCBA CLUSA), beginning Jan. 1. He is currently the organization's executive vice president for programs.

"Doug's strong track record in public policy, government program



management, public/private partnerships and his vision for the future will serve NCBA CLUSA well," says Andrew Jacob, board chair of NCBA CLUSA.

"We look forward to working with him to advance cooperative businesses that build an inclusive economy."

"I'm humbled to be part of NCBA CLUSA at this critical time," says O'Brien, who was raised on a diversified farm in Dubuque County, Iowa. "Families, small businesses and farmers have looked to cooperatives for generations to improve their income and secure their future. Now, more than ever, we need to show people how cooperatives can be a solution to today's challenges."

His career has focused on empowering people and communities in rural places. O'Brien joined NCBA CLUSA in 2016, where he has overseen the domestic and international work of the association.

"Doug has the unique combination of skills and experience to lead NCBA CLUSA into its next 100 years," says Ziewacz. "He has an appreciation for the diversity of cooperatives, their contributions in creating a strong and vital cooperative sector in the U.S. and globally, and the power of the cooperative principles to build a better world."

Prior to joining NCBA CLUSA, O'Brien served as senior advisor for rural affairs on the White House Domestic Policy Council. In this role, O'Brien led the day-to-day work of the council, which was chaired by the secretary of agriculture and composed of cabinet members from across the federal government. The council focused on job creation, rural manufacturing and child poverty.

Before that, O'Brien was acting undersecretary for Rural Development at USDA, where he led initiatives to create economic opportunities and improve the rural quality of life. His international work includes chairing the Rural Working Group of the Organization for Economic and Cooperative Development (OECD).

Ramsey new CEO at Wilco co-op

Tim Ramsey has been named as the new CEO and president of the Wilco agricultural cooperative, Mt. Angel, Ore., effective Jan.1. He succeeds Doug Hoffman, who is retiring after 23 years with the co-op.

Ramsey's recent experience as CEO of Oregon Cherry Growers Inc. cooperative adds to his good fit for the organization. His experience with food marketing businesses will be an asset to an organization that recently merged with Hazelnut Growers of Oregon (HGO) and added hazelnut processing and marketing.

In addition to HGO, Ramsey will be charged with leadership over the co-op's other business units, including its Farm Store business and a bulk petroleum and lubricants delivery business that helped establish the company over 50 years ago. Wilco is also an owner of the Valley Agronomics joint venture, which

NCB Co-op 100 generate \$208 billion in sales

National Cooperative Bank in October released its annual NCB Co-op 100, listing the nation's top 100 revenue-earning cooperative businesses. In 2016, these businesses posted revenue of about \$208 billion. NCB's Co-op 100 includes all co-op sectors of the economy (USDA's list focuses only on agriculture co-ops).

"The economic impact of cooperatives is critical to our economy," says Charles E. Snyder, NCB's president and CEO. "Cooperatives can be seen in just about every industry across America, including local food, finance, housing and energy. Whether it is bringing fresh local food through a food co-op or affordable homeownership through a housing cooperative, cooperatives help strengthen communities."

Cooperatives exist in a cross-section of sectors, including agriculture, grocery, hardware and lumber, finance, energy, communications, housing and recreation, among others. These co-ops provide over 2 million jobs and create more than \$75 billion in annual wages with revenue of nearly \$650 billion.

Following are the top two revenue producers in 2016 by sector, followed by the co-op's place on the overall NCB 100 list.

Agriculture:

- CHS Inc., Saint Paul, Minn., \$30.3 billion (also 1st overall)
- Dairy Farmers of America, Kansas City, Kan., \$13.5 billion (also 2nd overall)

Grocery:

Wakefern Food Corporation/ Shoprite, Keasbey, N.J.,

\$12.8 billion (4th overall)

• Associated Wholesale Grocers Inc., Kansas City, Kan. \$9.2 billion (5th overall)

Hardware & Lumber:

- ACE Hardware, Oak Brook, III., \$5.1 billion (9th overall)
- Do-it-Best Corp., Fort Wayne, Ind., \$3 billion (12th overall)

- Navy Federal Credit Union, Merrifield, Va., \$5.4 billion (8th overall)
- CoBank, Greenwood Village, Colo., \$2.8 billion (14th)

Healthcare:

• HealthPartners Inc., Bloomington, Minn., \$6 billion (7th overall)

Energy & Communications:

- Basin Electric Power Cooperative, Bismarck, N.D., \$2 billion (18th overall)
- Oglethorpe Power Corp., Tucker, Ga., \$1.5 billion (27th

While the companies and rankings change each year, the cooperative sector continues to advance, playing an increasingly influential role in the national and global economy.

To view the entire NCB Co-op 100, visit: www.ncb.coop.

provides products and services to farms across Utah, Idaho, Oregon and Washington.

"I am committed to preserving Wilco's strong culture and core values, strengthening the passion that customers have for Wilco, and to consistently provide value to our membership," says Ramsey. "As we create the Wilco of the future, I will continue to focus on the company's core strategies and pursue opportunities to accelerate growth."

Originally from California, Ramsey earned a BA degree in Organizational

Leadership from Azusa Pacific University and attended the Stanford Graduate School of Business.

NC co-op council slates meetings

The Cooperative Council of North Carolina (CCNC) has slated it annual meeting for March 12-13, and its Cooperative Leadership Camp for June 18-22.

The annual meeting is being held at the Riverfront Doubletree by Hilton in New Bern, N.C. Among the highlights will be the CEO panel talk, which will

feature Eric Cramer of Wilkes Communications, Chuck Purvis of Coastal Credit Union and Curtis Wynn of Roanoke Electric Cooperative.

Early-Bird registration runs through Dec. 31. For more meeting information, visit: www.ccnc.coop

Leadership Camp is a five-day educational program held at the FFA Center at White Lake, N.C. Rising high school sophomores, juniors and seniors may participate in the event, which features interactive workshops and presentations, team-building activities and small group sessions

focused on how cooperatives operate.

Students will launch a cooperative that produces t-shirts. They will elect a board of directors, hire a manager and staff, and adopt bylaws to govern the co-op. At the end of camp, members learn how to dissolve the cooperative.

Guest speakers include prominent co-op leaders, college professors and representatives of marketing, purchasing and service cooperatives. Students must be sponsored by a CCNC member cooperative or by 4-H (those needing a sponsor can contact CCNC). For more information, contact CCNC at: (919) 834-5544, or email: emily.nail@ccnc.coop.

PCCA distributes \$37 million to growers

Lubbock, Texas-based Plains Cotton Cooperative Association (PCCA) in September announced further cash distribution to its grower-owners of \$37.3 million. The distribution consists of \$21.8 million in cash dividends and stock retirements of \$15.5 million. The announcement was made during PCCA's 64th Annual Meeting.

"We had very strong net margins of \$45.23 million, and our Warehouse Division received a record 1.74 million bales," PCCA President and CEO Kevin Brinkley reported. "One thing this past year demonstrated was the power of volume, which added value to the cotton we sold to merchandisers and mills and lowered our per-bale cost of operations. All of this contributed to our profit margin."

Brinkley also stressed the importance of the performance of PCCA's warehouse operations. "Warehousing is a critical market function as we have the ability to make cotton more valuable while providing an important service to the merchandising segment of the industry," he said. "In addition to the solid performance of our friends at Farmers Cooperative Compress, our Warehouse Division continues to handle large volumes of bales and generates income for our grower-owners."

Founded in 1953, PCCA today is owned by 15,000 cotton producers in Texas, Oklahoma, Kansas and New Mexico. It is one of the largest originators of U.S. cotton to merchants and textile mills worldwide.

Maui Farmers' **Cooperative closes**

After 74 years in operation, Maui Farmers' Cooperative Exchange — the oldest and largest farming cooperative on the Hawaiian island of Maui closed last summer, according to a report in the Maui News. Agricultural shipments from the island have been down significantly in recent years, according to the newspaper.

The co-op, based in Wailuku, had been shipping cabbage and Kula sweet onions to Honolulu. Kula farmer and longtime co-op member Howard Hashimoto told the paper that dwindling membership led to the coop's closure, with many members having retired with no one left in the family to continue the farm.

Dairy processors stretched by higher milk volume

Every year, U.S. dairy farmers produce 3 billion more pounds of milk than the year before. For the past few years, production growth has outpaced processing capacity growth and dairy processors are struggling to keep pace, according to a new report from CoBank's Knowledge Exchange Division.

As a result, "Dairy processors are faced with the challenge of handling an ever-growing milk supply, while anticipating the right product mix to meet consumer demand," says Ben Laine, senior dairy economist at CoBank, "An additional 27 billion pounds of U.S. milk processing capacity will be needed over the next 10 years if current trends persist."

Numerous new plants and expansion projects are underway or have been recently completed, but available capacity remains a challenge at times, especially in the Northeast and Mideast. In these areas especially, growing milk volume has strained the ability of dairy cooperatives to fill the role of market

balancers. Since these co-ops largely bear the brunt of the near-term oversupply of milk, they are increasingly looking for ways to discourage producers from expanding production.

Meanwhile, recent lower milk prices have led to lower input costs for processors, strengthening balance sheets and opening the door to expansion opportunities, says Laine. "In some cases, this may mean upgrading existing, aging facilities, while in other instances it may mean new plant projects."

Many dairy cooperatives and some independent processors have focused on building and expanding milk-powder processing plants. These newer, largescale plants are better able to meet international demand and position companies for export market competitiveness. These plants have been popular in California and the Southwest.

Conversely, without updates, some of the mid-size aging commodity plants, those that produce butter and nonfat dry milk, will struggle when competing against more modern powder plants, says Laine.

Although U.S. consumers' fluid milk consumption has been slowing, investments are occurring in fluid-milk bottling plants to process specialty products like organic milk and extended shelf-life products or to upgrade and replace existing, aging infrastructure. Recent expansions of cheese-making plants — which have the potential to handle much more substantial amounts of milk than other processing plants have been completed in the Southwest. And new plans for cheese plant expansions in the Upper Midwest are expected to relieve some of the region's recent capacity constraints once they come online.

Increasingly, cooperatives are setting their sights on cheese plants, as opposed to commodity balancing plants, and are looking to joint ventures as a means to do so, according to the CoBank report. To read the full report, visit: www.CoBank.com.



Incubator for ag innovation opens

The WinField United Innovation Center — which will help give farmers more and better tools to grow crops more sustainably — has opened in River Falls, Wis. The 55,000-square-foot facility replaces the 6,000-square-foot WinField Product Development Center and Spray Analysis System.

The new facility will enhance WinField United's \$50 million annual research commitment to helping farmers grow food more sustainably and productively as they work to feed a growing world population. This research will help farmers precisely and responsibly apply crop protection and nutrient products exactly where they're needed in the field.

"The WinField United Innovation Center further strengthens our research and development capabilities and our reputation as a leader in 21st-century agribusiness and innovation," says Chris Policinski, president and CEO of Land O'Lakes Inc., WinField United's parent company. "The research and testing performed here will enable more targeted applications of crop protection products, which benefits both applicators and farmers. It also helps move the industry forward to achieve greater sustainability in land, water and air quality."

The increased space brings greater capacity to conduct product research on a variety of agricultural products including adjuvants, herbicides, insecticides, fungicides, plant nutrition and performance solutions, and seed treatments.

A key piece of the Innovation Center is the Infinity Group, a spray application laboratory with some of the most advanced capabilities in the world. The Infinity Group uses state-of-the art technology, including a wind tunnel, to evaluate the entire application process, including crop protection and adjuvant formulations, tank mixes, nozzle performance, spray characterization, drift and droplet deposition, and plant uptake. Testing is performed in the laboratory and in both controlled and in-field environments.



The new WinField United Innovation Center will enhance its \$50million annual research commitment to helping farmers grow food more sustainably and productively. Photos courtesy Land O' Lakes.

"Before we bring products to a farmer's fields, we make sure they work in our fields first," says Mike Vande Logt, executive vice president and chief operating officer for WinField United.

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