Nutritious products are at the heart of what we do.

Contents
1  From the President
4  Product Safety and Quality
6  Community Contributions
7  Workforce Development
10 GHG Emissions and Resource Recovery
11 From Brew to Moo
12 Energy Use
13 Water Quantity
14 Resource Recovery
15 Animal Care
17 Think Like a Cow
18 Stewardship Commitment
From the President

The United Dairymen of Arizona (UDA) cooperative is proud to share our 2018 Cooperative Sustainability Report.

2018 was a year of change and growth for our co-op. Our board of directors made decisions that took us out of our comfort zone but were in the best interest of the future.

Decisions that ensured the safest and highest-quality dairy products for our customers, because nutritious products are at the heart of what we do.

Throughout UDA’s 60 year history, the U.S. dairy industry has been able to reduce its environmental footprint drastically. In 2007, producing a glass of milk had a 37% lower carbon footprint and required 35% less water, 10% less land, and 21 fewer animals in comparison to a 1944 baseline.1 UDA is excited to continue driving progress in this critical area in the coming years.

But our definition of sustainability doesn’t only focus on our environmental impacts. We also focus on other key priority areas that help us thrive: workforce development, community contributions, food safety and quality, and responsible animal care. This report reflects our pursuit of sustainability in these areas.

Thank you for your continued interest in our cooperative and our sustainability efforts. As always, we look forward to sharing our progress in the years to come.

Sincerely,

Craig Caballero

Product Safety and Quality

Food Safety

United Dairymen of Arizona and other Innovation Center for U.S. Dairy members agree that food safety is a critical platform that transcends business competition.

To protect consumers and prevent food safety incidents, member companies of the Innovation Center work together to develop and share best practices to continuously improve and advance policies and product safety and quality procedures for dairy farming, processing, and manufacturing.

Our products are manufactured in compliance with state and federal regulations and must meet customer requirements.

In the event a product does not meet customer needs, we investigate to provide a systematic means of identifying, locating, accounting for the finished product, and recall of that product.

We frequently reassess our food safety programs to ensure efficacy and to reflect new food safety tools and practices and ensure continuous improvement.
Product Safety and Quality

Traceability

United Dairymen of Arizona is committed to the safety and traceability of our products from when the milk first arrives at our facility until it reaches the table. To strengthen the dairy supply chain and improve efficiencies, UDA has adopted the Innovation Center for U.S. Dairy’s enhanced U.S. Traceability Guidelines.

These practices have been adopted by 27 U.S. dairy processors, accounting for approximately 80 percent of U.S. milk production.

Traceability from Farm to Finished Product
Community

For 60 years, UDA has grown alongside the Tempe community. In 2018, our employees and dairy farmers had many opportunities to give back to our community. Volunteering not only makes you feel good, but it also has health benefits like counteracting the effects of stress, anger, anxiety, and depression.1

2018 Volunteer Contributions

• Milk Donation Drive: As part of our Grand Opening of the Milk n More Store, employees and customers donated over 800 gallons of milk to United Food Bank.
• Adopt-a-Street: Once a quarter, employees pick up trash and debris along Hardy Drive in Tempe.
• Food packing: Employees and young dairy farmers help pack food bags for Feed My Starving Children, an organization that helps feed hungry children around the world.
• Blood Drives: Twice a year, the Bloodmobile sets up in our parking lot, and employees can easily donate blood. Each donation can help up to 3 people with a life-threatening injury or illness.
• Children's Hospital Christmas Tree: Over the holidays, the young dairy farmers decorate a Christmas Tree at Phoenix Children's Hospital. The plush cows that adorn the tree are given to patients at the end of the holidays.

1. Volunteering and it's Surprising Benefits, Authors: Jeanne Segal, Ph.D. and Lawrence Robinson.
People

Over 300 employees span across Arizona, Nevada and Texas.

We consistently maintain a loyal workforce. About half of our employees have been with us for more than five years. Over a quarter of our employees have been with us for over ten years. Safety

Worker Safety

We are dedicated to employee safety throughout our operation. All of our employees participated in, developed, implemented, or managed health and safety initiatives.

• The Safety Committee, made up of employees in every department, meets monthly to discuss any safety concerns and how we can continuously improve.

In the last 22 years, we have seen a 38% reduction in an important safety measure: Days Away, Restrictions, and Transfers (DART) rate.1

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1. DART rate measures the number of work-related injuries and illnesses per 100 full-time employees that resulted in days away, work restrictions, or job transfers.
Benefits

Along with competitive pay, UDA offers extensive benefits to attract and retain top talent in the industry.

- With an emphasis on employee well-being, the onsite Wellness Center, Fitness Center, and Employee Assistance Program are offered free of charge to employees and dependents.
- Employees who make healthy choices like being a non-smoker and participating in annual biometric screenings earn discounts on their health insurance premiums.

Across the board, UDA has increased the number of benefits that it provides to its employees since 2014.

- One hundred twenty-four more employees are using wellness programs than in 2014.
- Twenty-two more employees are using company vehicles than in 2014.
- Ninety-three more employees are receiving 401k benefits (or comparable retirement plan) than in 2014.
- Four more employees are receiving health insurance (with employer contribution) benefits than in 2014.
Planet

United Dairymen of Arizona uses the Stewardship and Sustainability Framework for U.S. Dairy as a reference to track, measure and communicate our commitment to environmental stewardship, social responsibility and continuous improvement.

**On-Farm Energy and Greenhouse Gas Emissions**

While UDA’s farms used more energy than the national average, UDA’s farms emitted 10% fewer greenhouse gas (GHG) emissions per lb. FPCM than the regional average. This difference amounts to 17,420 fewer cars driven on the road in one year¹,².

**Methane Digesters**

We credit some of the success of our limiting environmental footprint to our use of digesters. A methane digester from just one dairy can produce up to 5 million kWh of electricity, enough to power over 400 households.

Digesters like these allow producers to capture methane (a greenhouse gas that is 25 times stronger than carbon dioxide) and produce biogas that can be used on the farm or sold to local utilities. The result is less electricity from the grid and a reduction in greenhouse gas emissions from manure.

In addition to capturing methane, digesters allow us to utilize over 368,000 tons of organic waste. In the process of making biogas, these digesters separate the remaining water and solids. The solids are used as fertilizer-grade manure management on cropland, and the water can be recycled as irrigation.

**Compost**

Seven of our members are converting manure management into compost. Composting allows our members to repurpose manure waste as a fertilizer / soil amendment that can also reduce odors, create alternative revenue streams, and reduce on-farm greenhouse gas emissions from manure.³

**Brewers Grains**

In addition, our farmers have found another way to recycle on their farms through the use of brewer grains as animal feed. Brewer grains are a great source of protein and fiber for our cows.”

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1. FPCM stands for Fat & Protein Corrected Milk, milk standardized to 4% fat and 3.3% protein. FPCM normalizes milk production to the same scale. We calculated our producers’ GHG emissions and energy use via a weighted average using the 2019 version of the National Milk Producers Federation’s (NMPP) FARM Environmental Stewardship tool, which uses a scientific, peer-reviewed model based on IPCC Tier 2 methods and life cycle assessment (LCA) research. Key data includes milk production records, herd data, rations, manure management, and energy use.
2. This number is based on the sample of member milk captured in the FARM-ES tool.
3. This number is based on the sample of member milk captured in the FARM-ES tool.
Ever wonder what happens to the shell (hull) from that bag of almonds you bought to snack on, or the beets after being broken down to make a bag of sugar for baking? The process of making the food we enjoy can lead to by-products that, although full of nutrients are inedible to humans, so are thrown away and sent to landfills.

For breweries, crafting beer accumulates a by-product when processing grains. After the starch has been steeped from the barley, what is left is a high protein, solid residue known as brewer’s grains, which happens to make great feed for ruminants, like cows.

The brewer’s grain replaces the need for distiller’s grain (a by-product of the ethanol industry). Over the years, breweries like Huss Brewing have partnered with a UDA dairy farm to recycle their brewer’s grains. “Before our partnership with James Boyle Dairy we used a variety of different farmers, and at times of desperation, a dumpster to dispose of our grain. We’re proud to be able to use 100% of our by-product to contribute to feeding local families,” says Jeff Huss, co-owner of Huss Brewing Co.

James Boyle Dairy, in Casa Grande, Arizona has been using the brewer’s grains from local breweries as part of their feed ration for over a decade. “We love to work with local businesses and keep by-products out of landfills. Cows have such an amazing ability to convert inedible foods into nutritious products for humans. This recycling of nutrients is a sustainable way to feed the world.” Says Jim Boyle Jr, owner of James Boyle Dairy.
**Plant Energy Use**

Our energy use intensity has increased since 2014; however, our total energy use has decreased by 0.7% since 2014. Our intensity trended upward in 2018 due to our new milk production policies and supply management practices.

**Plant Green House Gas Emissions**

Our greenhouse gas (GHG) emissions intensity has increased since 2014; however, our total GHG emissions have only increased by 2% since 2014. Our intensity trended upward in 2018 due to our new milk production policies and supply management practices.\(^1\)

**We credit our success to the following changes across our business:**

- We’ve worked hard to use less fuel.
  - We’ve used approximately 5% less natural gas and 3% less crude oil (gasoline, diesel, LPG, propane) since 2014.
- We have more super tankers in our fleet, which has allowed us to make transportation of our milk more efficient.
  - We emitted nearly 10% fewer GHG emissions from our fleet in comparison to 2014.
  - Drove 584,000 fewer miles.
  - Used 134,000 fewer gallons of diesel to get our milk from our members to customers and our plant.
- We track and comply with all air quality regulations as required by the state of Arizona and the U.S. federal government.

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1. GHG emissions at the plant include Scope 1 and Scope 2 emissions calculated based on site- and fleet-specific data and EPA emissions factors. Energy use and GHG emissions from trucking activities were calculated using EPA’s SmartWay Truck Carrier Partner 2.0.14 Tool, and they reflect member milk hauled from farms to our processing facilities only (UDA does not process all of its members’ milk). Total GHG emissions exclude refrigerants and refrigerant leaks as well as the transport of finished products, waste, and other materials (not within UDA’s operational control).
**Plant Water Use**

Our freshwater use intensity has increased since 2014; however, total freshwater use has decreased by 7% since 2014. Our intensity trended upward in 2018 due to our new milk production policies and supply management practices.\(^1\) Our freshwater comes from municipal sources, and we comply with all permits for water discharge.

**We credit our success to the following:**

- Approximately 32% of the total water we use is recycled and reused in boilers, cooling towers, and washes.
- Our increase in the use of super tankers allows us to wash fewer vehicles and save water.

1. Our freshwater intensity includes withdrawals only. It does not reflect water reclaimed from milk and whey processed at the plant.

**Freshwater Use Totals and Intensities**

<table>
<thead>
<tr>
<th>Year</th>
<th>Total Gallons</th>
<th>Intensity</th>
</tr>
</thead>
<tbody>
<tr>
<td>2014</td>
<td>234,980</td>
<td>80</td>
</tr>
<tr>
<td>2016</td>
<td>239,985</td>
<td>79</td>
</tr>
<tr>
<td>2018</td>
<td>218,336</td>
<td>95</td>
</tr>
</tbody>
</table>
Recycle

Since 2014, about 1% of our annual waste is incinerated or sent to a landfill.

We repurpose in Categories 2 and 3 of the waste management hierarchy.

- 93% of our Category 2 waste is paper or metal that is recycled or whey solids that are repurposed as animal feed.
- Nearly 160 tons of metal were recycled in 2018 compared to 2014 because we recycled old equipment during a plant demolition.
- Nearly 8,570 tons more of whey solids were sent to our farms in 2018 compared to 2014 to feed our cows.
- 6% of our Category 3 waste is sent to on-farm anaerobic digesters for energy recovery.
- Nearly 538 tons more of solid waste was sent to anaerobic digesters on our farms in 2018 compared to 2014.1

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1. The scope of the resource recovery indicators includes waste produced from a manufacturing facility during normal manufacturing processes. Boundaries of the indicators are the point where a recycling, treatment, or disposal facility accepts the facility's waste.
Animal Care

Healthy cows make high quality milk. High quality milk makes high quality and nutritious dairy products.

Feed
By-products of the food industry can be recycled and fed to livestock. Almond hulls, cotton seeds, brewer’s grains, distillers grains, whey by-products are all nutrient rich parts of a cow’s diet.

Shelter
Cows have access to shade and cooling when the weather heats up. Thanks to new technology, cows can stay cool and comfortable through hot Arizona summers.

Bedding
Cows enjoy a clean and comfy bed just like the rest of us. Each time the cows get milked, a pen groomer comes through to fluff up the dirt to ensure it’s dry and comfortable for the cows to lay on.

Vet Visits
Dairy veterinarians visit farms multiple times a month to ensure the health of each cow.
Animal Care

United Dairymen of Arizona requires our farmers/suppliers to participate in and adhere to The National Dairy FARM Animal Care Program guidelines, which provides best practices for the highest level of animal care in the dairy industry. Developed in conjunction with veterinarians, animal scientists and other dairy community experts, FARM includes regular on-site evaluations of our farmers/suppliers and annual independent third-party verification to maintain the integrity of the program.

100% of the UDA Milk Supply Comes from farms participating in the FARM Animal Care Program.
Think Like a Cow

"Animal well-being isn't just a box we check; it's a daily conversation."

As part of their continuous improvement efforts, UDA member, Stotz Dairy participated in a Low Energy Animal Handling (LEAH) training offered through Elanco Animal Health.

The three-day training covers all areas of low-stress animal handling. Participants start with an overview in the classroom, and then all go out to the dairy to put their lessons to practice. They learned about different zones on cows and how cows will react when you are near a particular zone. You learn to think like a cow and adjust your movements accordingly. Instead of using your voice or whistling, you stay calm with your hands in your pockets.

"We are always open to new ways of working with our cows because healthy and comfortable cows make the best milk." Says Jen Millican of Stotz Dairy.

After the three-day training, 30 employees received their LEAH certification.
United Dairymen of Arizona (UDA) has proudly adopted the U.S. Dairy Stewardship Commitment, affirming to our customers, our consumers and the global marketplace UDA’s pledge to responsible dairy production as we nourish the communities we serve. We join other dairy cooperatives and companies around the country in working hard to assure best practices in important areas like animal care, the environment and food safety. We strive to continually improve as we listen to and engage with our diverse stakeholders about what is most important to them. And we pledge to contribute to U.S. dairy’s ability to track and report progress to document our community’s leadership – from farm to table – in the global marketplace. For more information about the U.S. Dairy Stewardship Commitment, go to: http://commitment.usdairy.com/.
Nutritious products are at the heart of what we do.
About This Report

This report is the United Dairymen of Arizona’s third Cooperative Sustainability Report (CSR). The sustainability efforts at United Dairymen of Arizona (UDA) are aligned with the U.S. dairy industry efforts presented in the Innovation Center for U.S. Dairy’s Stewardship and Sustainability Framework. Our on-farm sustainability data include the full range of material environmental and animal care measures.

The farm-level data are presented as aggregated results in the form of weighted averages from farms representing 62% of the milk received by our plant for processing and 33% of the milk produced by our co-op as a whole. Sustainability performance data from our processing plant reflect the full range of material environmental, community, and employee topics.

This report summarizes the full calendar year of 2018, as well as 3-year trends across calendar years 2014, 2016, and 2018, where relevant. We have attempted to follow scientific protocols that are used as the basis of industry measures, and those emerging as recommended standards within the dairy industry.

We have taken significant efforts to ensure the accuracy and reliability of this information. However, this information has not been audited and is not guaranteed. UDA does not have direct control over its member farms. The report is not intended to be a solicitation or advertisement of UDA dairy products. This report does not include specifications, characteristics, uses, or benefits of UDA’s dairy products and cannot be relied upon for such purposes.

Forward looking statements, opinions, valuations, and estimates provided in this report are based on assumptions and contingencies, which are subject to change without notice.