

# Welcome

Behind every glass of milk, slice of cheese or scoop of dairy protein is a network of people committed to something bigger: nourishing people today while safeguarding the shared resources that will sustain tomorrow. That dual responsibility, to feed communities while caring for the land, animals and natural resources that make it all possible, is the lifeblood of U.S. dairy. And today, it carries new urgency in a world where over 700 million people face undernourishment, and where safe, sustainable and affordable food has never been more critical.

At the heart of it all is a simple truth—the strength of our sustainability journey comes from proving our values through action, not just words. Dairy's progress is built on credible results and the practical know-how that comes from decades of doing the work, and by the humility to continually improve and aim higher. In part, that momentum is fueled by the power of precompetitive collaboration through the Innovation Center for U.S. Dairy. The challenges and opportunities we face demand every voice, every skill and every commitment working together for solutions that lift the entire category. Because when we unite behind a common purpose, we raise the bar for what's possible.

This shared vision is reflected throughout our Sustainability Report, which chronicles two years of progress across the U.S. dairy community. It is both a record of action and a measure of accountability, showing where we stand, where we are headed, and the results that matter to our customers, communities and stakeholders.

Among the proof points in this report, a few stand out as milestone achievements that reflect our collective commitment to action. We invested in nutrition leadership—from building a research roadmap and amplifying dairy's role in health and well-being to supporting food security through partnerships that delivered 1.5 billion dairy servings to families in need. We advanced the science that guides our progress, developing a peerreviewed life cycle assessment that offers the most complete picture yet of U.S. dairy's greenhouse gas footprint and baseline for future measurement. We also refined our focus with an updated, third-party verified national materiality assessment, applying a double materiality lens to better understand both our impact and the risks and opportunities ahead. And for the first time, we are issuing industrylevel reporting against our 2050 Environmental Stewardship Goals, delivering on the promise we made five years ago to measure and share our results transparently.

The progress in these pages is grounded in data, shared vision, and the daily efforts of people who bring dairy to life. These achievements build on many decades of improvement in efficiency, productivity and sustainability—progress that is part of dairy's DNA and underpinned by the U.S. Dairy Stewardship Commitment, our unifying framework for advancing and demonstrating impact as an industry. It's why our expectations are high, why our practices lead the world, and why we continue to push the boundaries of what's possible. We have shown that nutritional impact, environmental gains and economic viability can—and must—advance together.

Tomorrow's food system will demand more nutrition, more responsibility and more resilience, with reliable access to the essentials that sustain growth at its foundation. Rising to that challenge means continuing to pursue environmental stewardship not as an end in itself, but because protecting our resources is what allows us to nourish people—a need that must remain at the center of our work.

Every decision reflected in this report began with the same question: Will this help us nourish people and protect what makes that possible? We will keep asking it—because the answers shape not only our future, but the future of those who count on us most.



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Balara S. D'Erien

Barbara O'Brien

President and CEO, Innovation Center for U.S. Dairy President and CEO, Dairy Management Inc.



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**Dennis Rodenbaugh** 

Chair, Innovation Center for U.S. Dairy
Board of Directors
President and CEO. Dairy Farmers of America, Inc.

# **Executive Summary**

The 2023–2024 U.S. Dairy Sustainability Report documents industry progress across priority areas during a two-year period, demonstrating an ongoing commitment to sustainably nourishing people, planet and communities. Information reported reflects progress in 2023–2024, unless otherwise noted. This report also includes the first update on the industry 2050 Environmental Stewardship Goals, reflecting historical trends and progress from 2020 to 2025.

FULL U.S. DAIRY SUSTAINABILITY REPORT ▶

# Advance Well-Being



Delivering dairy nutrition that meets emerging and personalized health needs

13

essential nutrients in milk support key areas of health and wellness >9,000

experts engaged through the Dairy Nourishes Network

### >850 million

pounds of dairy distributed through the Feeding America network **↓57%** 

fewer added sugar levels in flavored milk sold in schools since 2006

GO TO CHAPTER SUMMARY ▶

# Regenerate the Environment



Optimizing dairy solutions that enhance natural resources and ecosystems

**↓2.5%** 

GHG emissions intensity decrease (cradle to processing gate) from 2020 to 2025, while absolute emissions increased 2.1% and milk production increased 4.7%

↓2.2%

absolute GHG emissions decrease (processing) from 2020 to 2025

**↓14.7%** 

GHG emission intensity decrease (cradle to farm gate) from 2007 to 2025, with 1.4% decrease from 2020 to 2025 94%

average waste diversion rate among Stewardship Commitment adopters

GO TO CHAPTER SUMMARY ▶

# Care for Our Animals and Communities



Ensuring healthy animals, a vibrant workforce and safe, high-quality dairy foods

99%

U.S. milk production in FARM Animal Care

**†62%** 

improvement reported in workforce safety among Stewardship Commitment adopters from 2021 to 2024

>550

food safety professionals in processing trained ~\$780 billion

contributed to U.S. economy and over 3 million American jobs

GO TO CHAPTER SUMMARY ▶

Introduction Well-Being Environment Animals and Communities 2023–24 U.S. Dairy Sustainability Summary Report

# **About U.S. Dairy**

# **An Industry Snapshot**

U.S. dairy has long played a significant role in our nation's food system, communities and economy. Today, that role continues to grow, as the industry advances environmental stewardship, supports local livelihoods and contributes to responsible growth globally.

>96%

of U.S. households consume dairy foods<sup>1</sup>

~\$780 billion

in overall economic contributions<sup>2</sup>

Dairy foods provide

~52% of the calcium.

~51% of the vitamin D and

~17% of the protein

consumed by Americans<sup>3</sup>



Dairy farms are at the heart of the dairy industry, working to produce raw milk across all 50 states

### >9 million

milk cows in the U.S., producing on average ~24,000 pounds of milk per cow annually<sup>4</sup>

### >225 billion

pounds of milk produced across ~24,000 dairy farms<sup>5</sup> Dairy cooperatives unite farmers and collect, process and market milk on their behalf

### 87%

of the market share for U.S. milk and milk products is accounted by dairy co-ops<sup>6</sup>

## >\$63 billion

value of milk and milk products sold through U.S. dairy co-ops (2022)<sup>6</sup> Dairy processors and manufacturers transform raw milk into a wide range of dairy products

### ~175,000

employed in key dairy segments, among >1 million direct jobs within the U.S. dairy industry<sup>2</sup>

# \$8.2 billion

in dairy products exported to 145 countries in 2024<sup>2</sup>

- 1 Your Dairy Checkoff. (2024, October 2). How many households are buying dairy? <a href="https://www.dairycheckoff.com/news/checkoff-news/how-many-households-are-buying-dairy">https://www.dairycheckoff.com/news/checkoff-news/how-many-households-are-buying-dairy</a>
- 2 International Dairy Foods Association. (n.d.). Dairy Delivers. International Dairy Foods Association. https://www.idfa.org/dairydelivers#map
- 3 U.S. Dairy. (n.d.). Dairy nutrition. https://www.usdairy.com/dairy-nutrition
- 4 United States Department of Agriculture, National Agricultural Statistics Service. (2025, January 24). Milk production (Report No. MKPR 01-24). https://downloads.usda.library.cornell.edu/usda-esmis/files/h989r321c/ww72d629z/cz30rp422/mkpr0125.pdf
- 5 United States Department of Agriculture, Economic Research Service. (2025, January 8). Dairy Background. https://www.ers.usda.gov/topics/animal-products/dairy/background
- 6 Whitt, C. (2024, November 26). Overview of dairy cooperatives (CRS Report No. R48285). Congressional Research Service. https://www.congress.gov/crs-product/R48285

# **About the Innovation Center for U.S. Dairy**

The Innovation Center for U.S. Dairy ("Innovation Center") is a voluntary organization that works precompetitively with and through the dairy value chain to foster collaboration and progress to build a healthy and sustainable future for the dairy community, the people it serves and the planet we all share.

Established in 2008 through the leadership and ongoing support of dairy farmers, the Innovation Center unites farmers, cooperatives, processors and buyers to address precompetitive priorities that strengthen and build trust in the U.S. dairy sector. While farmers continue to fund the mission at the heart of the Innovation Center, dairy companies also contribute by funding specific programs and initiatives that advance shared industry goals.

Rooted in farmer leadership and guided by the voices and perspectives of industry leaders, the Innovation Center builds alignment, sets shared priorities and accelerates best practices on topics most important for a thriving U.S. dairy community, from modern wellness and environmental stewardship to food safety and animal care. It is also a springboard for participants to implement meaningful improvements within their own operations while helping dairy remain essential, trusted and sustainable for generations to come.

Through expert-led committees and task forces. the Innovation Center draws on research and data, and develops tools and resources to support long-term business viability and trust. Its Board of Directors includes CEOs and executives of leading dairy cooperatives, processors and national dairy organizations, and as of October 2025, represented 27 organizations supplying more than 66% of U.S. milk production.

### Dairy Sustainability Alliance®

The Innovation Center's Dairy Sustainability Alliance® is a multistakeholder group consisting of companies and organizations across the dairy community as well as stakeholders who want to contribute to dairy's social responsibility journey. Through two in-person meetings each year, in addition to webinars and newsletters, Dairy Sustainability Alliance members share knowledge and collaborate on challenges and opportunities to accelerate progress toward common sustainability goals, while contributing to the long-term viability of the U.S. dairy industry.

The Dairy Sustainability Alliance is a key vehicle for convening the broader U.S. dairy value chain and is often the entry point for companies and organizations interested in engaging with Innovation Center initiatives. Dairy Sustainability Alliance membership is free and open to companies and organizations that are committed to U.S. dairy's sustainability leadership.

>200

member companies of the Dairy Sustainability Alliance with ~40 dairy farmer representatives >950

total stakeholders reached through the Dairy Sustainability Alliance



# **U.S. Dairy Stewardship Commitment**

The <u>U.S. Dairy Stewardship Commitment</u> was developed by the Innovation Center to recognize and empower the U.S. dairy community to advance and demonstrate sustainability progress through aligned action and reporting as an industry. Adopting companies agree to meet defined standards and report on performance across priority areas including animal care, environmental stewardship, food safety and more. Adopted by companies representing the majority of U.S. milk production, the Stewardship Commitment signals to customers, investors and other stakeholders that participating dairy businesses are unified under a standard of continuous improvement, credible reporting and shared accountability.

The Stewardship Commitment not only helps adopters measure and communicate their impact, it also provides a platform for acting together as an industry to accelerate meaningful change, providing confidence that U.S. dairy is nourishing people responsibly and sustainably. By enabling consistent, aggregated reporting across the value chain, the Stewardship Commitment helps demonstrate U.S. dairy's collective progress, strengthening trust in the category while reinforcing the leadership of the companies contributing to it.



Throughout this report and in the Appendix, data reported by U.S. Dairy Stewardship Commitment adopters is featured. Performance data for the 2023 and 2024 calendar years reflects the collective results of 35 organizations, representing approximately 76% of U.S. milk production. These organizations are referred to as "reporting adopters."

For a consistent view of progress over time, we also highlight results from a cohort of 29 organizations that reported in 2021, 2022, 2023 and 2024.

This group is referred to as "legacy adopters" and represents nearly 74% of U.S. milk production.

### **Stewardship Commitment Adopters**

### **Over 77%**

of U.S. milk production is represented by Stewardship Commitment adopters







6











































































# **U.S. Dairy Materiality Assessment**

To identify and guide sustainability priorities in the U.S. dairy industry, the Innovation Center conducted the first national materiality assessment in 2018, which reflected the sustainability topics that mattered most from field-to-processor gate. Building from the second materiality assessment conducted in 2021, the 2025 U.S. Dairy Materiality Assessment adopted the approach of double materiality—incorporating materiality guidance from sustainability standards—and received third-party verification for the first time. The double materiality approach expanded the assessment to consider U.S. dairy's impact as well as the financial risks and opportunities.

As with the previous materiality assessments, stakeholders and experts within and outside the U.S. dairy value chain were engaged to strengthen the assessment of U.S. dairy's impacts, risks and opportunities. The results, research and insights continue to inform strategy and guide industry efforts, including those driven by the Innovation Center. The national assessment also shaped new resources such as a Materiality Assessment Guide and supplemental resources to support U.S. dairy companies when conducting their own assessments. The new suite of resources were informed by a pilot exercise with Idaho Milk Products and designed to support a clear, adaptable and verifiable process.

This assessment reinforced topics that U.S. dairy has prioritized for decades, while deepening an understanding of other topics and their associated impacts, risks and opportunities. The incorporation of the financial risk and opportunity assessment underscored the critical connection between sustainability and long-term economic viability of farmers and the industry.



Introduction



# **Advance Well-Being**

Dairy continues to deliver trusted nutrition and meet personal health needs, while strengthening food and nutrition security in the U.S. and around the world. U.S. dairy is uniquely positioned to advance well-being for individuals and communities at large.

That's why the industry is collaborating to deliver daily nutrition that meets emerging and personalized health needs across life stages, to clearly communicate dairy's benefits to health and wellness professionals and consumers alike, and to ensure everyone in our communities can access and enjoy these benefits. By supporting individual health, dairy plays a crucial role in building resilient communities where everyone can thrive.



### **Health and Nutrition**

Milk has 13 essential nutrients, including:

**HIGH QUALITY** ZINC **PROTEIN SELENIUM CALCIUM IODINE PHOSPHORUS** VITAMINS A, D, B2, B3, **POTASSIUM B5 AND B12** 

In the average American diet, milk, cheese and yogurt combined supply:1

14% 52% 28% Vitamin B2 Calcium Potassium

27% 51% Vitamin D Phosphorus

29% 17% Vitamin A

Ongoing research and updated resources equip the U.S. dairy community to share dairy's science-backed benefits and help consumers personalize their health and wellness:

### **GROW AND PERFORM**

Functional benefits for bone health, athletic performance and sustained energy

### FIRST 1,000 DAYS

Support for brain and neurocognitive development, maternal health, pregnancy outcomes and more.



### **HEALTHY HEART AND WEIGHT**

Assists with heart health, metabolic health, and weight management.

### **SYSTEMS** SUPERCHARGED

Benefits for digestive health, joint mobility and health and overall wellness.

### **MENTAL AND EMOTIONAL HEALTH** AND WELLNESS

Support for greater focus, productivity, and mental clarity.

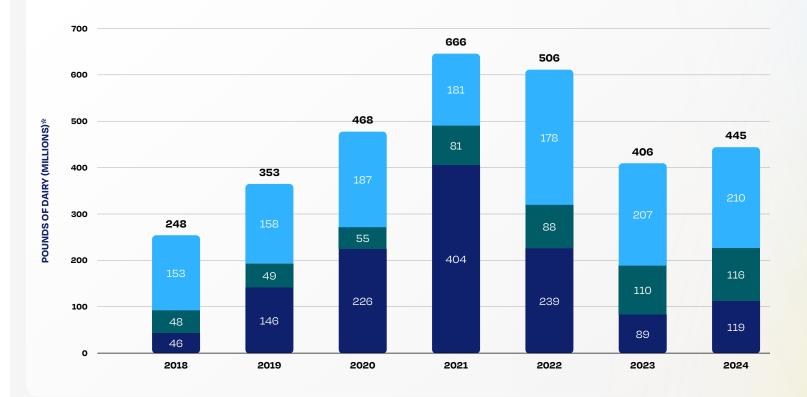
Based on the average American diet. [Source: National Dairy Council. "National Dairy Council Quick-Reference Guide. "https://www.usdairy.com/getmedia/7f24626b-c08b-459a-b964-7a8478c88cd0/NDC-Quick-Reference-Guide-2022.pdf?ext=.pdf U.S. Dairy.]

FEDERAL COMMODITIES PURCHASED

The dairy community has been dedicated to combating food insecurity for decades. Many collaborations, projects and partnerships involving dairy farmers, cooperatives, processors and non-profit organizations work to increase access to dairy products in the hunger system.

### Millions of Pounds of Dairy Distributed Through the Feeding America Network

DONATED



Source: Dairy Nourishes America partnership, March 2025 update.

### 1.5 billion

servings of dairy distributed through the Feeding America network in 2024

2023-24 U.S. Dairy Sustainability Summary Report

### >850 million

pounds of dairy distributed through the Feeding America network in 2023 and 2024



<sup>\*</sup> Totals may not sum due to rounding.

Introduction



# Regenerate the Environment

The U.S. dairy community understands that environmental stewardship is fundamental to the long-term viability of farms, the resilience of the global food system, and the health of the planet. As stewards of land and natural resources, U.S. dairy is advancing science-driven solutions that are both innovative and grounded in agricultural traditions, focusing on areas such as soil health, water conservation, greenhouse gas (GHG) reduction, and circularity.

The **2050 Environmental Stewardship Goals** build on a decades-long commitment to producing dairy foods that can sustainably feed a growing population, which expects continued progress on responsibly produced foods and beverages. By continuously measuring progress, identifying practical pathways, and engaging in cross-sector collaboration, the industry is driving meaningful environmental outcomes.



**Achieve GHG Neutrality** 



**Optimize Water Use While Maximizing Recycling** 



Improve Water Quality by Optimizing Utilization of Manure and Nutrients



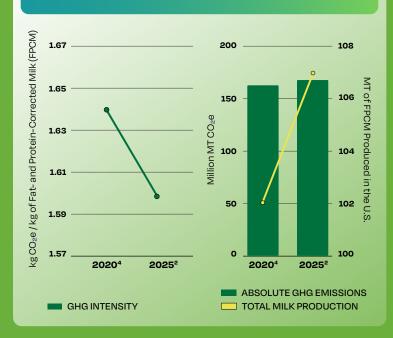
# **Achieve GHG Neutrality**

U.S. dairy is working collectively to achieve GHG neutrality by balancing GHG emissions with reductions and removals, as defined by the Intergovernmental Panel on Climate Change (IPCC).

### ↓ 2.5%

Decrease in GHG intensity from cradle-to-processor gate<sup>1</sup> from 2020 to 2025<sup>2,3</sup>

Only 2.1% increase in absolute emissions while milk production increased 4.7%3



### ↓ 14.7%

Decrease in GHG intensity from cradle-to-farm gate from 2007 to 2025, with a 1.4% reduction from 2020 to 2025



- The scope is from cradle-to-processor gate, with the boundary being the physical areas used in dairy production including feed, farm and processing facilities (Pelton et al., 2025a,b). The scope of the assessment ends at the processor gate and does not include distribution to retail or food service industr
- Data sources were updated to 2025, 2024 and 2023 where possible. However, certain data inputs remain unchanged from 2020 due to limited availability of updated information. Weighted average across 99.96% dairy products.
- Pelton, R, Bernal, F, Kurt, T. (2025). Comprehensive spatial greenhouse gas emissions from U.S. dairy products [Manuscript submitted for publication]. Pelton, R., Tricarico, J., Bernal, F., de Ondarza, M. B., & Kurt, T. (2025, May 20). Spatially resolved greenhouse gas emissions of U.S. milk production in 2020. Environmental Science & Technology, 59(19). https://doi.org/10.1021/acs.est.5c01166

Introduction

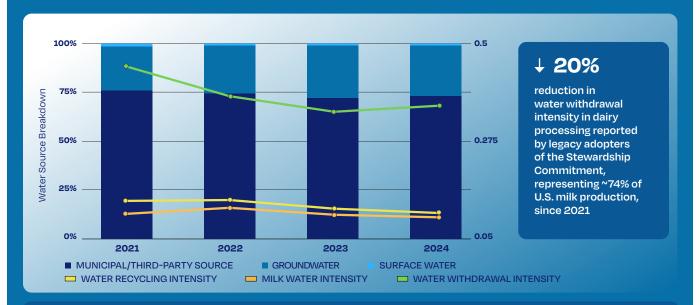
Well-Being

Environment



# **Optimize Water Use While Maximizing Recycling**

As water availability varies regionally, dairy farmers and processors work to increase efficiency across milk production and processing. While management approaches are tailored to individual operations and locations throughout the U.S., practices such as water reuse and recycling are common on dairy farms and in processing plants. Scientific research shows that the intensity of blue water use at the field and farm level decreased by approximately 50% from 1971 to 2020.6



MEASUREMENT STRATEGY IN PROGRESS: Comprehensive datasets corresponding to the scope and boundary of U.S. dairy's water use footprint (from field and farm through processing), are not publicly available. After consulting with a variety of stakeholders throughout 2023–2025, the Innovation Center developed a draft process for estimating national level, industry-wide water use efficiency and is receiving third-party feedback.

6 Rotz, C. A., Beegle, D., Bernard, J. K., Leytem, A., Feyereisen, G., Hagevoort, R., Harrison, J., Aksland, G., & Thoma, G. (2024). Fifty years of environmental progress for United States dairy farms. Journal of Dairy Science, 107(6), 3651–3668. https://doi.org/10.3168/jds.2023-24472



# **Improve Water Quality** by Optimizing Utilization of **Manure and Nutrients**

Water quality is critical for thriving dairy production systems—from farms to processors—and is a shared priority for the U.S. dairy industry and broader society. From managing nutrient runoff on farms to treating wastewater at processing facilities, U.S. dairy actively manages water quality to protect surrounding communities and the public.

Modeling efforts strongly suggest that U.S. dairy's contribution to nitrogen leaching, nitrogen runoff and phosphorus runoff—both soluble and "legacy" phosphorus contained within sediment—decreased substantially between 1971 and 2020.7



**MEASUREMENT STRATEGY IN PROGRESS:** The Innovation Center is exploring an opportunity to build the capability to model farm-level water quality outcomes, which would be validated against available empirical research to support national-level measurement against this goal.

Rotz, C. A., Beegle, D., Bernard, J. K., Leytem, A., Feyereisen, G., Hagevoort, R., Harrison, J., Aksland, G., & Thoma, G. (2024). Fifty years of environmental progress for United States dairy farms. *Journal of Dairy Science*, 107(6:3651–3668. https://www.journalofdairyscience.org/article/S0022-0302(24)00010-9/fulltext

Introduction Well-Being Environment Animals and Communities 2023-24 U.S. Dairy Sustainability Summary Report



# Care for Our Animals and Communities

Dairy's social responsibility includes ensuring healthy animals, fostering a vibrant workforce and producing safe, high-quality dairy foods. U.S. dairy recognizes the importance of continuously investing and demonstrating its commitment in these long-standing priorities in a transparent and robust manner.





A cornerstone of responsible cow care is the National Dairy Farmers Assuring Responsible Management (FARM) Animal Care Program, operated by the National Milk Producers Federation (NMPF). This voluntary yet widely adopted program—covering more than 99% of U.S. milk production—establishes rigorous, science-based animal welfare standards. Adherence to these standards is demonstrated through second-party evaluations and a statistically significant sample of third-party verification audits, ensuring accountability and continuous improvement.

### **Five Domains**

The FARM Animal Care Program draws on globally recognized models, such as the Five Domains, which provide a structured approach to meeting the physical, behavioral and emotional needs of animals under human care. Below are key areas where the FARM Program aligns:

NUTRITION ENVIRONMENT HEALTH BEHAVIOR WELL-BEING



12

As stewards of public health, U.S. dairy companies are committed to protecting consumers and maintaining trust through continuous improvement and proactive measures, beyond the strict regulations that govern all aspects of production, processing, and distribution. Since 2011, over 120 workshops have been held by the Innovation Center to train more than 5,250 individuals (more than 550 in 2023 and 2024 alone) from dairy processors of all sizes about food safety practices and culture.

### 100%

adopt and apply food safety plans which they regularly update, and follow the guidance in the Innovation Center's Food Safety and Traceability Guidance documents

### 100%

have validated, verifiable food safety programs and management systems

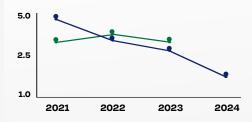
Introduction Well-Being Environment Animals and Communities 2023–24 U.S. Dairy Sustainability Summary Report



The U.S. dairy industry is committed to fostering safe and positive work environments, recognizing that its success depends on a skilled, motivated, and engaged workforce. Workplace practices are subject to federal and state regulations and are sometimes evaluated through customer supplier management programs. Through the FARM Workforce Development program, U.S. Dairy Stewardship Commitment and IDFA's workforce programs for dairy processors, dairy companies are actively leveraging resources and best practices to manage their human capital strategies. Over 44% improvement in U.S. dairy farms' incidence rate of non-fatal injuries or illnesses from 2017 to 2023 according to the U.S. Bureau of Labor Statistics (2023).<sup>1</sup>

Legacy adopters, representing ~74% of U.S. milk production, reported a 62% decrease in the DART rate from 2021 to 2024.

- DART RATE
- DAIRY PRODUCT MANUFACTURING AVERAGE<sup>2</sup>



The FARM Workforce Development (WFD) program, administered by NMPF, provides resources, training and guides to help dairy farmers enhance safety management practices, increase worker engagement and reduce employee turnover.

As of year-end 2024,

1,079

evaluations on farms representing over 13,700 employees were completed since program inception, with

752 evaluations taking place in 2023–24.

1 U.S. Bureau of Labor Statistics. (2024). Injuries, Illnesses, and Fatalities: Survey of Occupational Injuries and Illnesses Data. Survey of Occupational Injuries and Illnesses Data. U.S. Bureau of Labor Statistics. https://www.bls.gov/jiif/nonfatal-injuries-and-illnesses-tables.htm. Review included Table 1. Incidence rates of nonfatal occupational injuries and illnesses by industry and ease types, annual reports data by industry and Table A-1. Fatal occupational injuries by industry and event or exposure, all United States for Crop production/Oilseed and grain farming (1111), Dairy cattle and milk production (11212), Dairy product manufacturing (NAICS 31150).

2 U.S. Bureau of Labor Statistics (BLS). Dairy Product Manufacturing (NAICS 3115) average shown with 95% confidence interval high-low range. Please note the 2024 data has not been published.



Through job creation, local economic investment, and continuous innovation in products and manufacturing, U.S. dairy contributes meaningfully to economic vitality. The industry also plays an active role in addressing community needs by donating food, providing financial support, volunteering time and sharing professional expertise. As reported in IDFA's *Dairy Delivers*® report, **nearly \$780 billion** is contributed to the U.S. economy by the U.S. dairy industry, as well as over 3 million jobs.

The U.S. dairy industry is deeply rooted in local communities through a variety of initiatives that support health, education and economic development. Dairy farmers often host on-farm events, school visits and educational programs to help families and students learn about agriculture, sustainability and where their food comes from.

### 3.05 million

total U.S. jobs supported by the dairy industry

\$197.6 billion

in wages

\$779.45 billion

in total economic impact

### \$83 billion

in combined federal, state and local taxes

13

\$8.2 billion

in total annual exports

