Dairy Sustainability Framework

REPORTING SECTOR PROGRESS SINCE 2013



DSF Annual Sustainability Progress

2025 Calendar Year Reporting



Since 2013, the Dairy Sustainability Framework (DSF) has monitored and reported sustainability progress across the global dairy sector. The framework tracks progress across 11 environmental, social, and economic sustainability criteria, each supported by defined indicator metrics. The DSF accounts for approximately 30% of global milk production, equating to 52% of formal dairy cow and buffalo milk production worldwide.

Data included in this report represents the 2025 calendar year, as reported by DSF member organisations in 2026. The process by which the DSF manages, processes and aggregates the data is independently audited by the University of Nottingham (UK).

In 2025, the estimated global milk production for all species was 1,003.7 million tonnes according to the FAO Food Outlook (June 2026). Of the total world milk volume, approximately 965 million tonnes (937 billion litres) are considered in DSF calculations throughout this report, representing dairy cow (85%) and buffalo (15%) production volumes.

As the DSF grows into new countries, and as markets evolve, observed fluctuations and trends in reporting can reflect both performance changes as well as changing DSF membership composition or reporting coverage.



2025 Report Overview

Key Changes

This report presents the latest aggregated data on sustainability progress across the DSF membership. Key changes reflected in the 2025 data and reporting include:

- A significant increase in dairy processing plants, which is predominantly driven by new DSF Stage 1 membership representing the dairy sectors of Uruguay, Costa Rica, and the Dominican Republic.
- While DSF grows with new Stage 1 members, the framework maintains low attrition of existing members.
- DSF now includes a clear differentiation between dairy cow and buffalo numbers, reflecting membership growth in the Asian region. As this is a new reporting option, less than 1% of the DSF milk-producing animals are currently reported as buffalo. It is anticipated that this number will grow over time as members are able to capture the required data.
- To improve the inclusiveness and specificity of workforce reporting, DSF began offering members the option to report employee and dairy farmer/worker gender data as male, female or "other". This change was implemented in 2025 (using 2024 calendar year data). As a new metric, DSF reports the data but does not yet attempt to draw conclusions from this small subset of employee statistics.

Report Highlights

- The sustainability criteria prioritised by DSF members remained broadly stable. Animal Care retained the top position, with members representing nearly 98% of DSF milk volume prioritising this criteria.
- Global buffalo and cow milk production increased by 19.8 billion litres (2.2%) in 2025, compared to 2024.
- DSF 2025 reported milk volume grew by 8.5 billion litres (3%) compared to 2024. This increase was due to 4.4 billion litres (52%) of new member volume alongside 4.1 billion litres (48%) of incremental volume from existing members.
- DSF member markets vary significantly in their stage of sectoral development and data collection practices. While global milk production and processing volumes have increased overall, some more developed dairy regions are experiencing consolidation, whereas emerging dairy economies continue to grow. Differences in members data collection cycles, including industry wide surveys on a five-yearly cycle, can also influence year-on-year results.
- The DSF Animal Care indicator metric (Somatic Cell Count, SCC) has now reached the end of the transition period. This is the final annual report in which SCC will serve as the Animal Care metric. Beginning in the next reporting cycle, the number of annually reviewed farm specific Animal Health and Welfare (AHW) Plans will become the indicator metric for the Animal Care criteria.
- DSF data and reporting continue to support the sector's engagement at global policy forums by providing a consistent evidence base.

DSF Development

- In 2025, the DSF launched its 2025-2030 Strategic Plan. This represents successful collaboration and communication between DSF members and key external stakeholders. This five-year plan features three strategic focus areas:
  1. **Value proposition and reporting capability development.**
  2. **Engagement in low-to-middle income countries (LMIC) and emerging dairy economies.**
  3. **DSF resourcing.**
- In 2025, DSF's model for capacity building and expanding Stage 1 membership advanced from planning and approval phase to implementation, with engagements underway in Latin America.
- DSF published a new suite of materiality training resources valuable for the entire DSF member community. Materiality assessment is key to informing DSF sustainability criteria prioritisation decisions.
- DSF delivered a five-part member education webinar series, Sustainability in Action. Each webinar featured farmers from two countries within a global region, providing members with practical examples of sustainability approaches and an opportunity to share experience across the DSF community.
- Beginning in 2025, the DSF Annual Report includes enhanced trendline analysis of DSF time-series data to provide a clearer view of how reported performance is changing over time.
- The 2025 DSF Annual Meeting featured input from behavioural economist Professor Dan Ariely, who explored the role of human behaviour change in the adoption of new practices and technologies.
- DSF Communities of Interest (COIs) are member-led groups that focus efforts on specific sustainability topics such as animal care, greenhouse gases, and biodiversity & nature. These communities accelerate identifying solutions, programme development, and implementation through knowledge sharing.



DSF & Global Milk Production in 2025

Global milk production for all species in 2025 is estimated at 1,003.7 million tonnes according to the FAO Food Outlook (June 2026).

Following DSF's data processing protocol, approximately 3.8% of that volume is subtracted, representing production from sheep, goats, and camelids. The result is a global estimate of production from cows and buffalo totaling approximately 965 million tonnes.

Converting to litres, this DSF progress report considers the following total volumes:

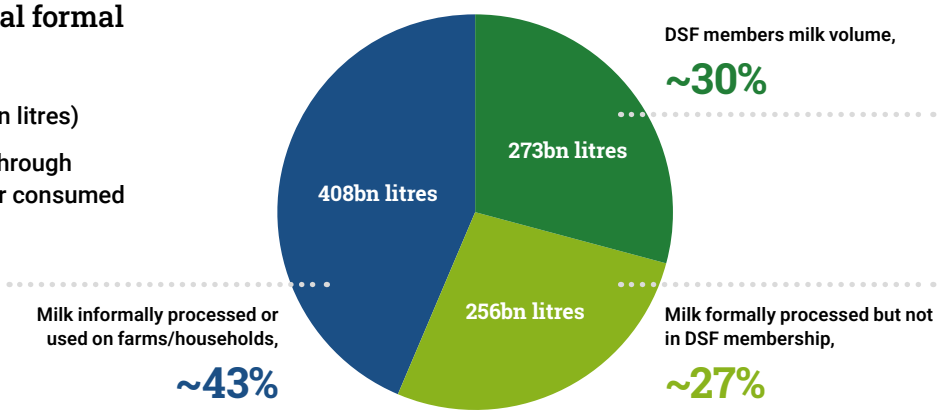
- 2025 global milk production from cows and buffalo: 937 billion litres*, an increase of 2.2% on 2024 reporting.
- 2025 DSF membership milk production: 273 billion litres, an increase of 3% on 2024.
  - DSF milk volume processed in 2025 represents approximately 30% of global milk volume compared to 29% in 2024.
  - As a result of how both DSF reported and global milk volumes grew, the DSF members' share of the formal milk market was unchanged compared to 2024.

DSF & Global Milk Production 2025

DSF represents 52% of the global formal milk market.

~57% Formal Milk Market (529 billion litres)**

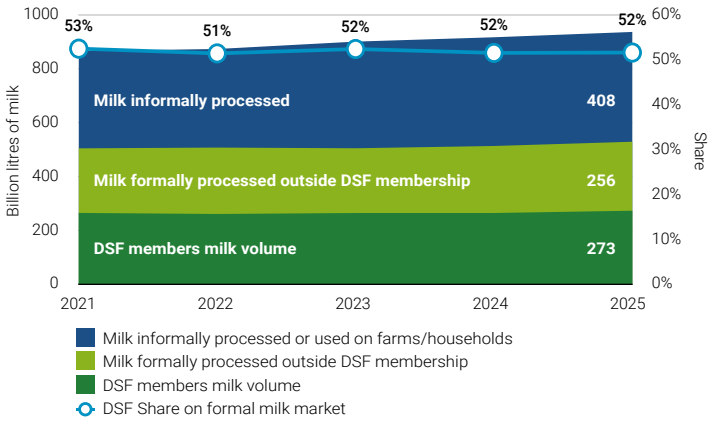
~43% Informal Milk Market Milk sold through unstructured, unprocessed channels or consumed directly in the home



*FAO
**IFCN Dairy Network Estimate

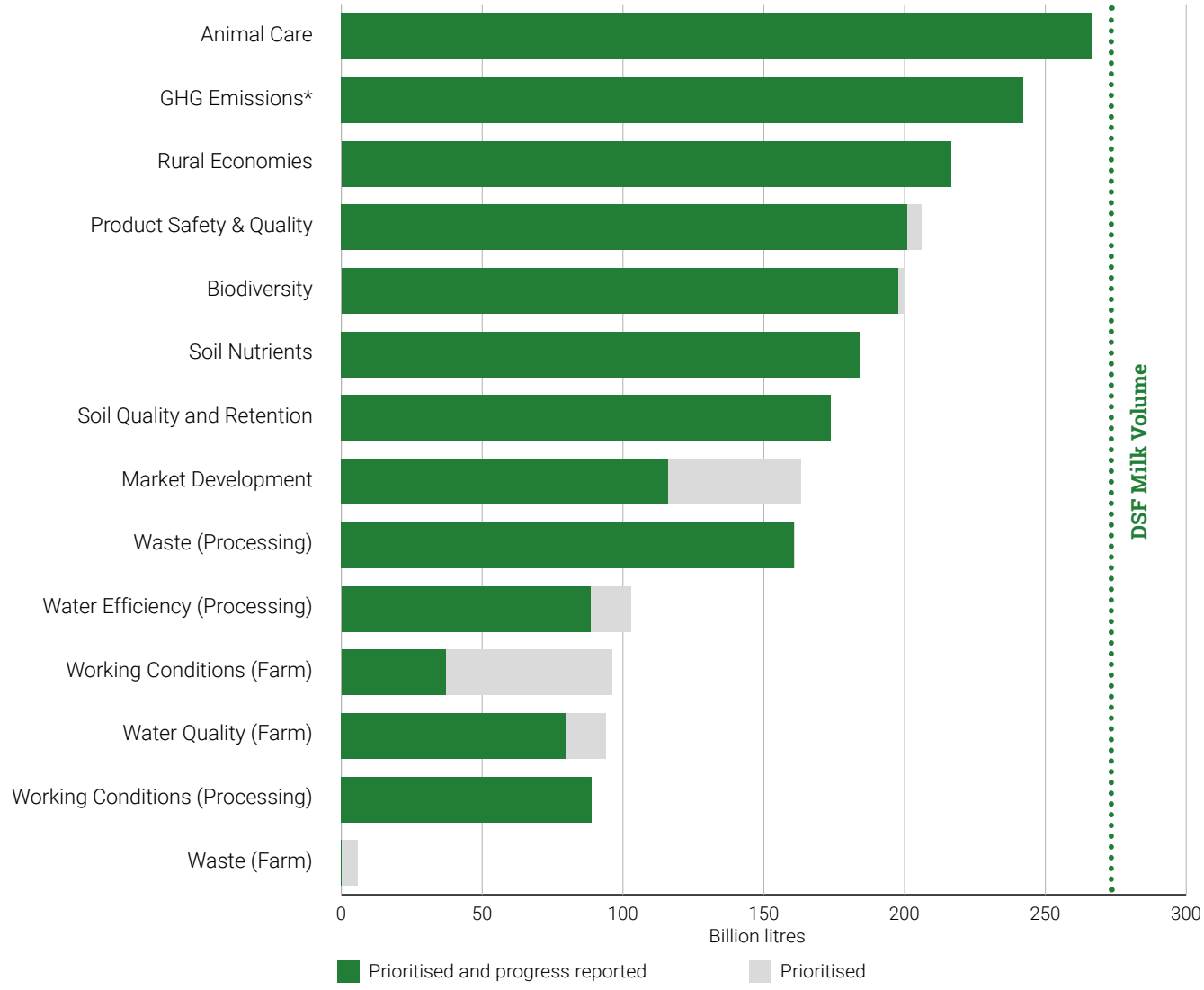
DSF and Global Milk Production Five-year Trend

The five-year average of reported milk volumes by DSF members represents 52% of the world's formal milk volume from cows and buffalo.



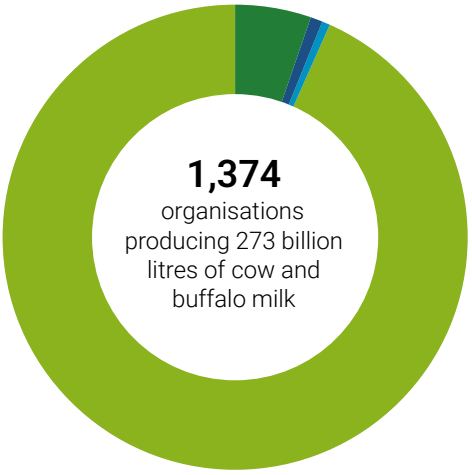
The percentages reported in these figures reflect a subset of DSF members currently able to report, and these values are not estimates of the global dairy workforce.

2025 DSF Milk Volume, Priorities and Reporting



*Calculated for entire global dairy sector provided by SRUC analysis.
Water, Working Conditions and Waste Criteria have two indicator metrics as they cover both farm and processing levels of the dairy value chain.

DSF Membership by Category



75 Implementing members
11 Aggregating members
6 Stage 1 members
1,282 Organisations represented by aggregating members

Access more information on DSF membership categories.

New DSF Members in 2025 (including Stage 1 Pilots)

+42,989 farms

+1,267,667 cows & buffalo

+2,661 processing plants

+42,989 dairy farmers

+11,593 employees beyond farm gate

+4.37 billion litres of milk

Land area will be presented in future reporting

2025 Snapshot - Total Membership

642,153 farms

35,273,373 cows & buffalo

7,026 processing plants

720,764 dairy farmers

2,268,966 employees beyond farm gate

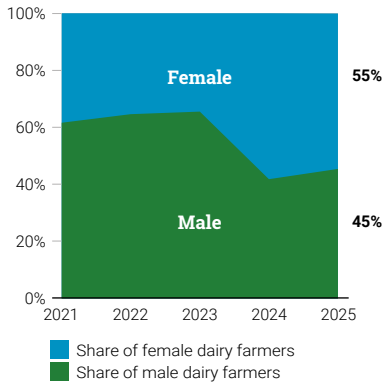
273 billion litres of milk

>26.6 million hectares

- The majority (FAO estimates in excess of 90% of all farms) of the world's dairy farms are family farms that include more than one family member, which can result in more than one farmer per farm.

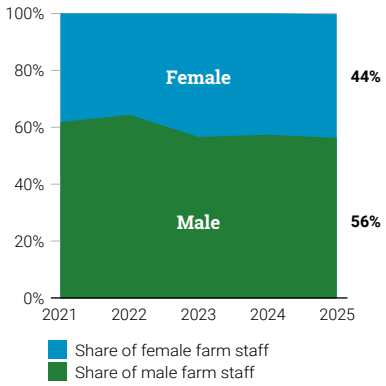
Gender and Employment

Dairy Farmers



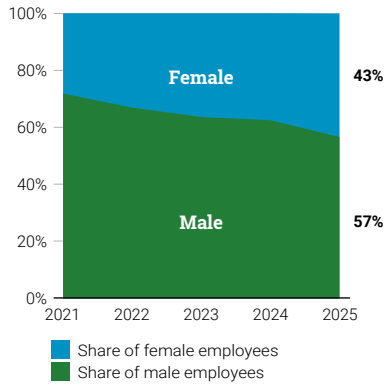
DSF volume of milk reporting:
82%

Dairy Farm Employees



DSF volume of milk reporting:
29%

Post-farmgate & Milk Processing Employees



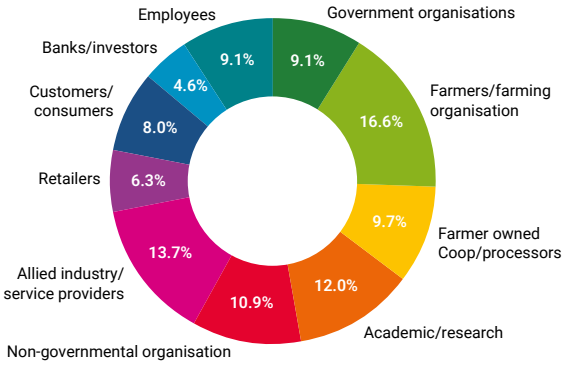
DSF volume of milk reporting:
43%

Local Multi-stakeholder Management Group (LMG) composition

A core component of DSF implementation is each member's formation and coordination of a Local Multi-stakeholder Management Group (LMG). These groups bring together stakeholders with an interest in dairy sustainability, giving members an external perspective that helps identify sustainability priorities and work towards achieving them. This external input is critical to the success of DSF's delivery process.

Each year, DSF members provide a breakdown of their LMGs by stakeholder type. This requirement reflects the importance of engaging with and considering diverse perspectives from a variety of interested stakeholder groups. Stakeholder engagement is important to ensure scaled impact is timely, science-based, adaptable to local needs, and aligned with industry values and goals.

Types of organisations represented in DSF members' Local Management Groups 2025





Priorities in Action

The DSF's membership is unique in its scale and diversity, and the Framework respects the different needs, priorities, and stages of development across regions and farming systems. This means members enter a global network of peers facing similar challenges and sharing solutions as they emerge, in a pre-competitive context.

Not all members can address identified criteria at the same time, scale, or speed, so DSF Criteria prioritisation shifts over time as members adjust focus, add new priorities, or reassess how to utilise limited resources for maximum impact.

Five-year trend lines provide an indication of how performance is changing over time across the DSF Criteria, while recognising that changes in membership, market structure and reporting coverage can also influence year-on-year results.

Sustainability Criteria, strategic intents, and indicator metrics are detailed on the DSF website.



Key

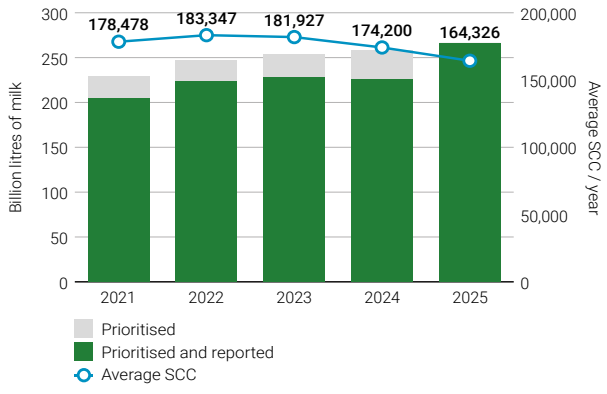
1. Criteria: one of DSF's 11 sustainability focus areas, e.g., GHG emissions.
2. Strategic Intent: when prioritised this is the member's desired outcome for any improvement strategy implemented.
3. Indicator Metric: Members provide data for their prioritised Criteria using these consistent metrics for their annual reporting to the DSF.

- Members report the number of farms they represent.
- Assumption: 1 plan per farm.

Animal Care

Dairy animals are treated with care and are free from hunger, thirst, discomfort, pain, injury and disease and are able to engage with relatively normal patterns of behaviour.

Reporting: Arithmetic mean of Somatic Cell Count (SCC) across the reporting period.



Transitioning to the New DSF Animal Care Indicator:

All members who prioritised Animal Care	2023	2024	2025
No. of Animal Health & Welfare (AHW) plans implemented	74,040	117,693	150,430
No. of farms	428,507	418,115	396,186
% of farms with an AHW plan	17.3%	28.1%	38.0%

- The DSF Governors agreed in 2023 to transition the Animal Care metric from SCC to "Animal Health and Welfare Plans implemented." DSF has collected AHW Plan data for three years to support this transition, and AHW Plans will be the Animal Care indicator from the next reporting cycle.

Insights:

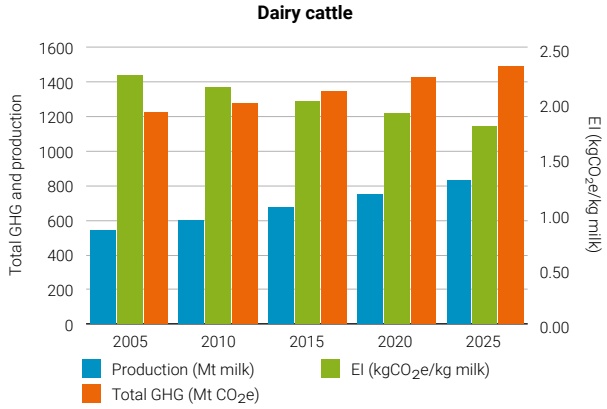
Animal care retained its position as the top priority DSF criteria in 2025. Members representing an additional 8.6 billion litres of milk prioritised Animal Care compared to 2024, while the volume reported increased by approximately 40 billion litres.

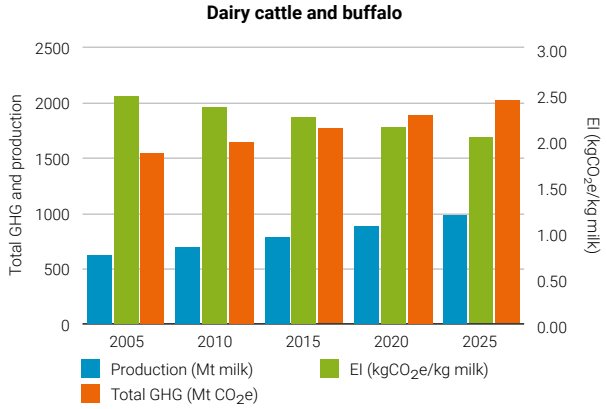
Average Somatic Cell Counts (SCC) reported to DSF have declined year-on-year since 2022, and the five-year average is 176,456 cells/mL of milk.

GHG Emissions

GHG emissions across the full value chain are quantified and reduced by all economically viable means.

In 2025, the DSF commissioned Scotland's Rural College (SRUC) to calculate an updated GHG emissions estimate for the entire global dairy cattle and buffalo production system, building on the previous trendline generated by the UN Food and Agriculture Organization (FAO). The next update is planned for the 2028 report.





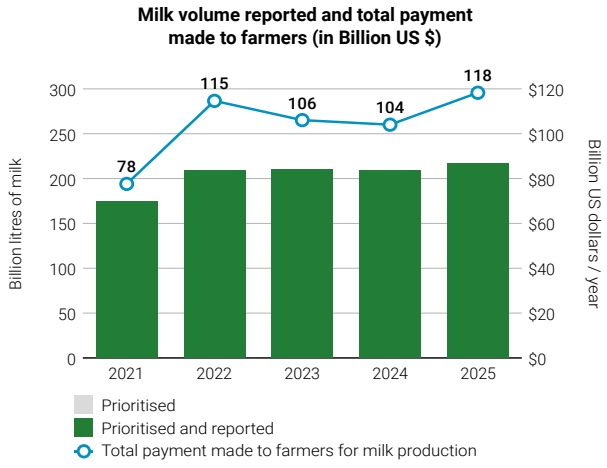
- The analysis indicates that between 2005 and 2025, dairy cattle milk production increased by 53% but the decrease in Emissions Intensity (EI) limited the increase in total GHG to 22%.
- For dairy cattle and buffalo combined, milk production increased (2005 – 2025) by 60% and total GHG by 31%.
- Estimated emissions intensity for dairy cow milk in 2025 = 1.79 kg CO_2e/kg FPCM
- Estimated emissions intensity for buffalo milk in 2025 = 3.24 kg CO_2e/kg FPCM
- Estimated combined emissions intensity in 2025 = 2.03 kg CO_2e/kg FPCM

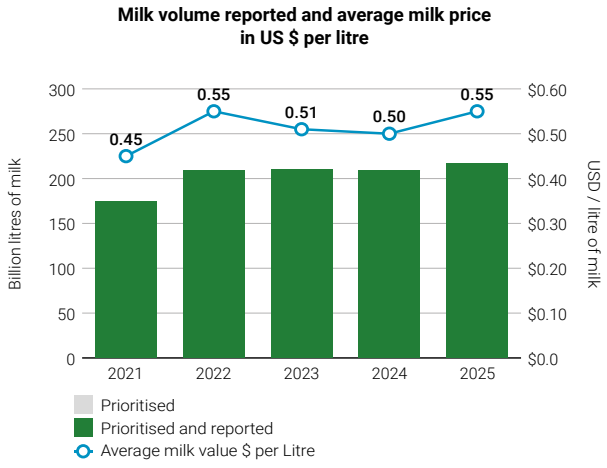
Reporting generated by Scotland's Rural College.
Calculations undertaken applying FAOStat Milk production data and FAO GLEAM 3 Emission Intensities (EI)
The Emissions Intensity was assumed to decrease at 1.1% per annum based on:
FAO and GDP. 2018. Climate change and the global dairy cattle sector – The role of the dairy sector in a low-carbon future. Rome.
FAO. 2023. Pathways towards lower emissions – A global assessment of the greenhouse gas emissions and mitigation options from livestock agrifood systems. Rome.

Rural Economies

The dairy sector contributes to the resilience and economic viability of farmers and rural communities.

Reporting: Total annual payments made to farmers for milk.





Insights:

DSF members reported approximately US$118 billion in payments to supplying farmers in 2025, up from approximately US$104 billion in 2024, while average reported milk value increased from US$0.50 to US$0.55 per litre. These figures are influenced by milk prices, exchange rates and changes in DSF membership and cannot be interpreted solely as a measure of underlying farm profitability.

For reporting 2025 data, DSF requested members include details of any additional payments for milk. For example, some cooperatives or dairy organisations might make additional profit distributions throughout the year directly to their members based on milk production parameters. As this is a new reporting request, the data is limited. The DSF will continue collecting data and will report once the data sample is sufficient to draw conclusions.

Product Safety and Quality

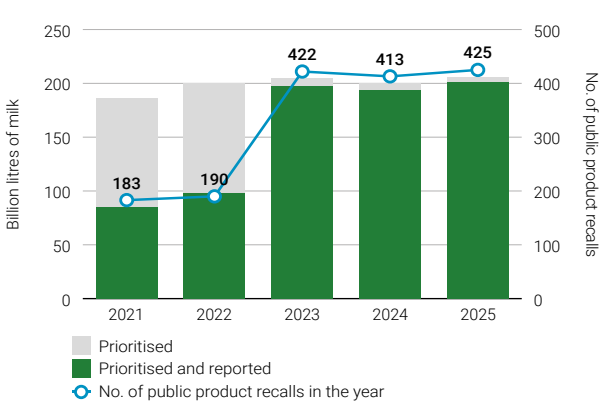
The integrity and transparency of the dairy supply chain is safeguarded, so as to ensure the optimal nutrition, quality, and safety of products.

Reporting: Implementation of a Product Safety Assessment and Recall Plan (PS&RP) and the number of public product recalls during the reporting period.

Members who have prioritised and those with a plan, also shown as a % with a plan



Milk Volume prioritised & reporting and number of public product recalls



Insights:

For the share of DSF milk volume represented, public product recalls have remained at approximately two recalls per billion litres of milk each year. The sharp increase in the absolute number of recalls from 2022 to 2023 largely reflected increased reporting coverage rather than additional recalls.

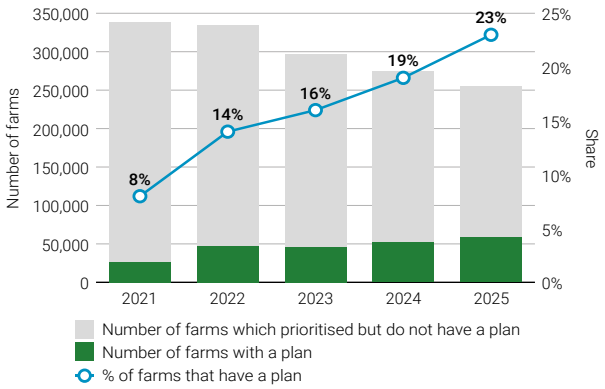
In 2025, 100% of organisations prioritising Product Safety and Quality reported having Product Safety Assessment and Recall Plans (PS&RP) in place.

Biodiversity

Direct and indirect biodiversity risks and opportunities are understood and strategies to maintain and enhance it are established.

A Biodiversity Plan (BP) is implemented to preserve, restore and improve biodiversity on-farm and across the supply chain.

Reporting: Number of Biodiversity Plans implemented.



Insights:

The share of farms prioritising Biodiversity that reported a Biodiversity Plan increased from 19% in 2024 to 23% in 2025.

The absolute number of Biodiversity Plans reported increased by 13% from 2024 to 2025.





Soil Nutrients

Nutrient application is managed to minimise impacts on water and air, while maintaining and enhancing soil quality.

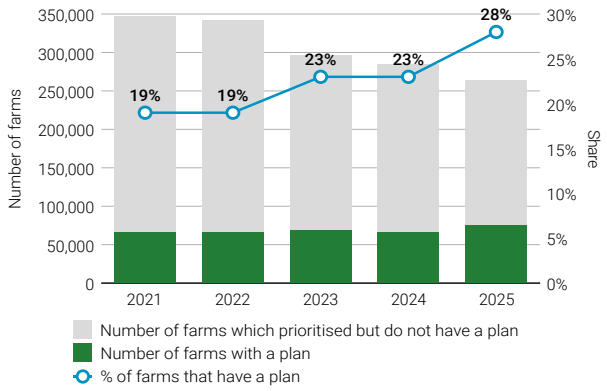
Implementation of a Nutrient Management Plan (NMP) to enhance production and reduce water and air pollution.

Reporting: Number of NMPs implemented.

Insights:

The share of farms prioritising Soil Nutrients that reported a Nutrient Management Plan increased from 23% in 2024 to 28% in 2025.

The absolute number of Nutrient Management Plans increased by 13% between 2024 and 2025.



Soil Quality and Retention

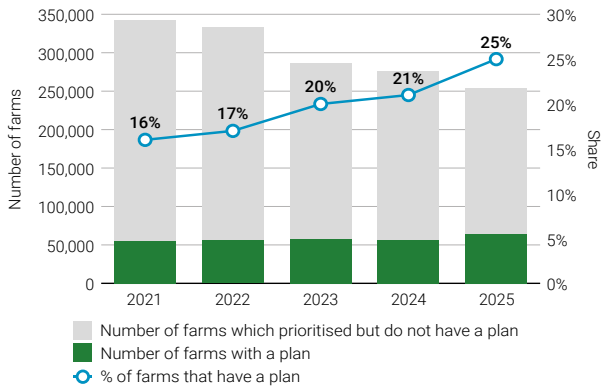
Soil quality and retention is proactively managed and enhanced to ensure optimum productivity.

Soil quality is maintained or improved by good management practices defined in a Soil Quality Management Plan (SQMP).

Reporting: Number of SQMPs implemented.

Insights:

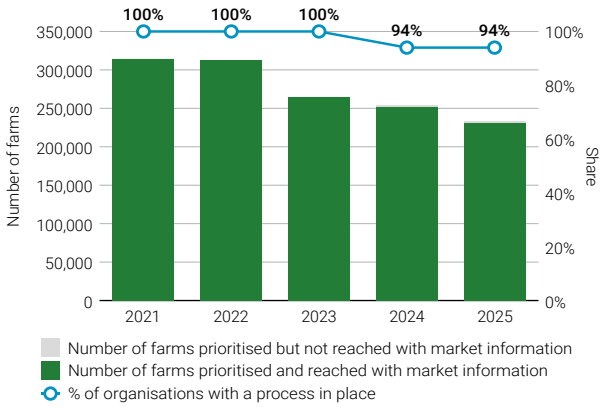
A gradual positive trend is observed as both the number and share of farms with plans continue to increase. In 2025, data show a 13% increase in the number of SQMPs being implemented, despite an 8% reduction in the overall number of farms prioritising Soil Quality and Retention.



Market Development

Members along the dairy value chain are able to build economically viable businesses through the development of transparent and effective markets.

Reporting: Is there a process in place to inform producers of market opportunities and challenges?

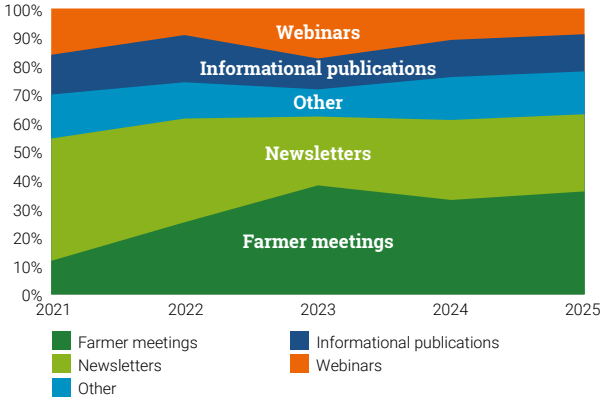


Insights:

In 2025, 94.4% of organisations prioritising Market Development reported having a process in place to inform farmers of market opportunities and challenges. The number of farms represented declined, largely reflecting changes in the DSF membership and market structure rather than a reduction in the importance of market information.

How have DSF Members communicated with their supplying farms about market opportunities and challenges?

Face-to-face farmer meetings and newsletters remain the most common channels, representing a combined 63% of 2025's farmer communication approaches.



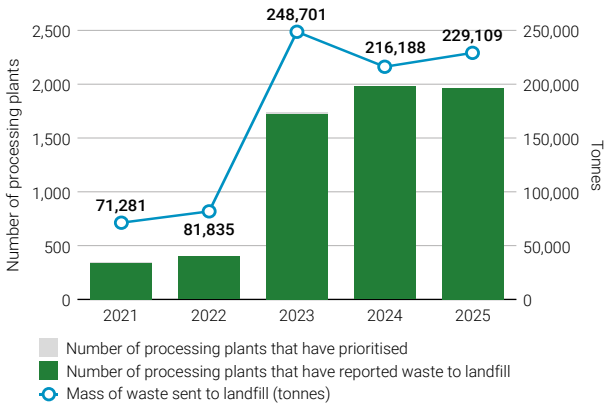
- Other includes trade fairs, workshops/training courses, open days, and media interviews.

Waste (Processing)

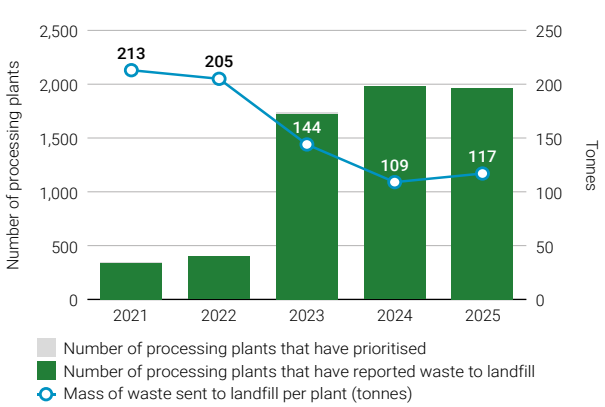
Waste generation is minimised, and where unavoidable, waste is reused and recycled.

Reporting: Mass of waste to landfill per year.

Processing plants (factories) prioritised and reported along with mass of waste to landfill



Processing plants (factories) prioritised and reported along with mass of waste to landfill per plant



Insights:

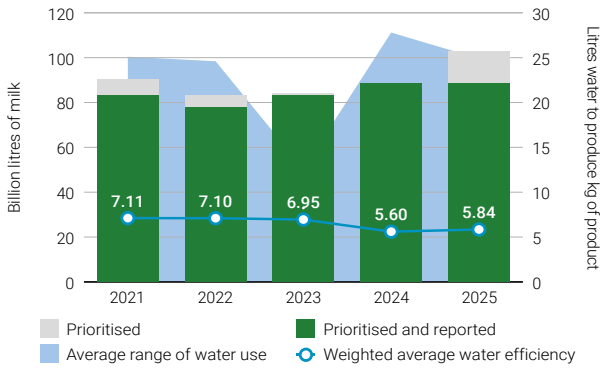
Waste sent to landfill per reporting processing plant remains substantially below 2021 levels, although it increased modestly from 109 tonnes per plant in 2024 to 117 tonnes in 2025.

Water Availability and Quality (Processing)

Water availability as well as water quality is managed responsibly throughout the dairy value chain.

Water use efficiency for production and processing is measured.

Reporting: Average volume of water (litres) required to produce a kg of product, plus the range (highest and lowest values).



Insights:

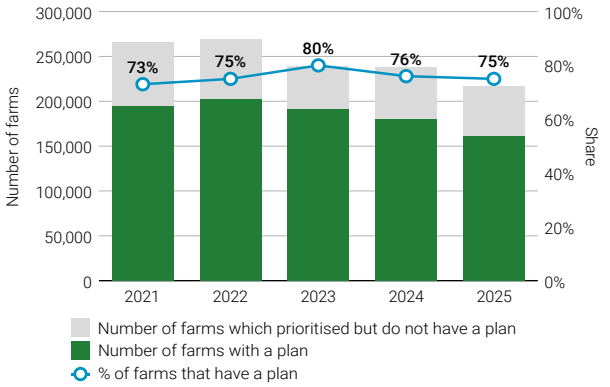
The weighted average reported water use remained below earlier years at 5.84 litres/kg of product, although it increased from 5.60 litres/kg in 2024. Product mix and reporting coverage should be considered when interpreting year-on-year changes.

Working Conditions (Farm)

Across the dairy value chain, workers operate in a safe environment, and their rights are respected and promoted.

A Farm Safety Plan (FSP) is implemented to ensure worker safety.

Reporting: Number of FSPs implemented.



Insights:

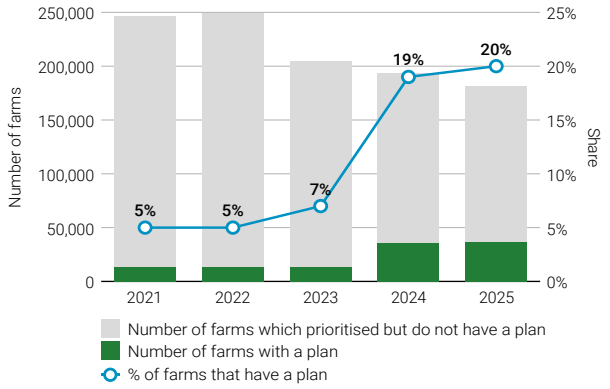
The percentage of farms prioritising Working Conditions that have a Farm Safety Plan has remained broadly stable over recent years, at 74.5% in 2025. The DSF Secretariat will explore this topic with members to identify possible barriers to further improvement.

Water Availability and Quality (Farm)

Water availability as well as water quality is managed responsibly throughout the dairy value chain.

An Effluent Management Plan (EMP) is adopted to minimise impacts to water quality.

Reporting: Number of EMPs implemented.



Insights:

The share of farms prioritising Water Availability and Quality that reported an EMP increased from 18.6% in 2024 to 20.4% in 2025. Reporting nevertheless remains limited, indicating continued opportunity to strengthen farm-level water management and reporting.



Working Conditions (Processing)

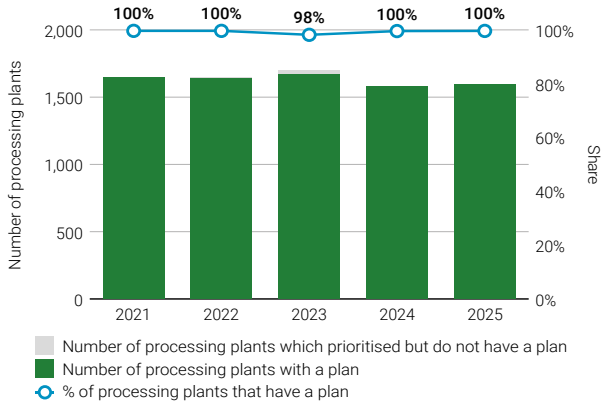
Across the dairy value chain, workers operate in a safe environment, and their rights are respected and promoted.

A Facility Safety Plan (FSP) is implemented to ensure worker safety.

Reporting: Number of FSPs implemented.

Insights:

Facility Safety Plan implementation at processing level remained consistently high in 2025, with 100% of prioritising plants reporting a plan in place.



Waste (Farm)

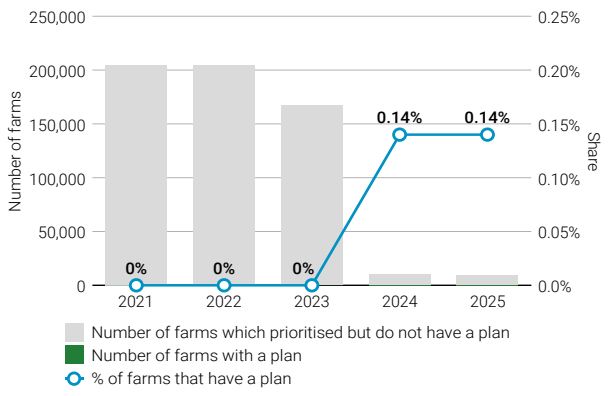
Waste generation is minimised, and where unavoidable, waste is reused and recycled.

Implementation of a Waste Management Plan (WMP).

Reporting: Number of WMPs implemented.

Insights:

Reporting against the Farm Waste indicator remains limited. DSF will work with DSF members and the multi-stakeholder Advisory Council (ADCO) to understand whether this reflects implementation barriers, reporting limitations or the suitability of the current indicator metric, and determine the appropriate response.



The DSF Vision

A vibrant dairy sector committed to continuously improving its ability to provide safe and nutritious products from healthy cattle and buffalo, while:

- **Preserving natural resources**
- **Ensuring decent livelihoods across the industry**





Dairy Sustainability Framework

6133 N. River Road
Suite 200
Rosemont, IL 60018
USA
info@dairysustainabilityframework.org
www.dairysustainabilityframework.org
dairy-sustainability-framework