



Dairy Sustainability Framework

REPORTING SECTOR PROGRESS SINCE 2013



DSF Annual Sustainability Progress

2022 Calendar Year Reporting



The Dairy Sustainability Framework (DSF) monitors and reports the annual sustainability progress of the global dairy sector. The DSF accounts for 30% of global milk production and quantifies progress via 11 sustainability criteria (economic, social and environmental) and associated indicator metrics.

Data included in this report is from the 2022 calendar year and reported by DSF members in 2023. The process by which the DSF manages and processes the data is audited by the University of Nottingham (UK).

Estimated global milk production (all species) in 2022 (source: FAO Food Outlook, June 2023) is 935.9 million tonnes (up from 927.8 million tonnes in 2021). Of this, 900 million tonnes (874 billion litres), is the global dairy cow (85%) and buffalo (15%) milk production applied in DSF calculations.

2022 Highlights

- DSF represents 30% of total global milk production, which equates to over 50% of the global formal milk market.
- Three new members in 2022 contributed an additional 1.4 billion litres to the DSF total milk volume.
- For the first time, Animal Care was the number one priority for DSF members, closely followed by GHG emissions.
- Rural Economies was the third most prioritised Criteria, reflecting the increasing emphasis on economic sustainability.
- DSF initiated the reporting of gender data for employment at both farm and processing level to better quantify the role of dairy in providing support for both women and men.
- DSF milk volume reduced by just under 4 billion litres in 2022, due to consolidation of dairy production in many of the more developed dairy regions.
- This reduction correlates with FAO reporting showing global milk production increasing by only 0.6% from 2021 as opposed to the 2% annual increase experienced over recent years.

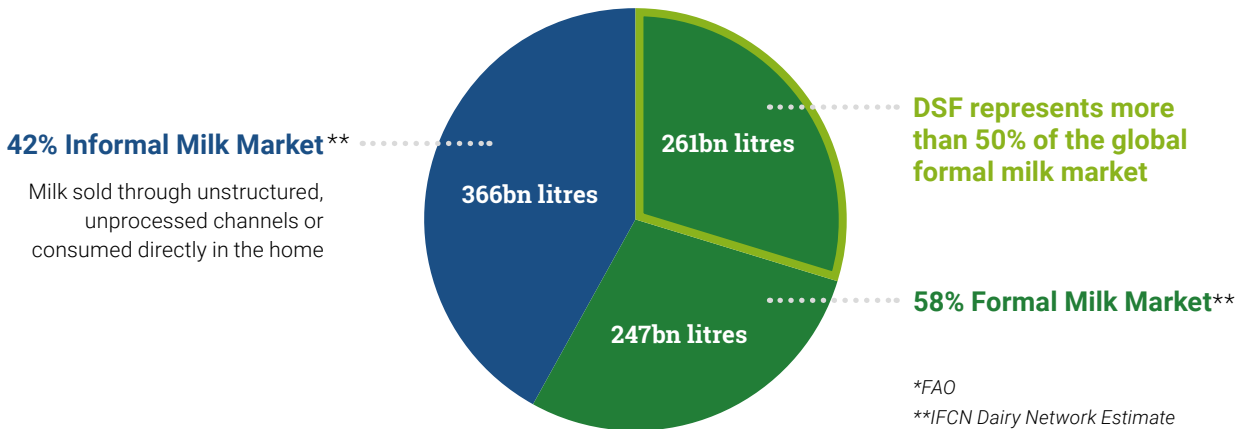
DSF Development

- The DSF Strategic Plan continues to drive its development activities.
- An independent global materiality review was commissioned to ensure the DSF 11 sustainability criteria are 'fit for purpose' for the future.
- The DSF strategy for Latin America was developed and implemented with DSF Governor FEPALE in collaboration with the Inter-American Institute for Cooperation on Agriculture.
- DSF Pilots in Kenya, Rwanda, Vietnam and India were finalised thanks in part to financial support of the International Fund for Agricultural Development and Global Dairy Platform.
- A multi-stakeholder group, including members of the DSF Advisory Group, was established to develop a new DSF membership level, catering specifically to 'new entrants' to sustainability.
- DSF played an active role in representing the dairy sector's sustainability efforts at COP27 in Egypt.
- DSF is part of the Steering Group for the Pathways to Dairy Net Zero initiative and will provide the progress reporting mechanism.
- The Director was an active member of the development team for the GRI Sector Standard for Agriculture, Aquaculture and Fishing launched in June 2022.
- A Biodiversity Community of Interest was started to support members in tackling identified biodiversity challenges.
- A newly updated DSF Implementation Guide was released in English, Portuguese and Spanish.
- DSF annual reporting is now available in six languages.
- DSF enhanced its website to improve member accessibility and resource provision.

DSF and Global Milk Production - 2022

Global Milk Production: 874 Billion Litres*

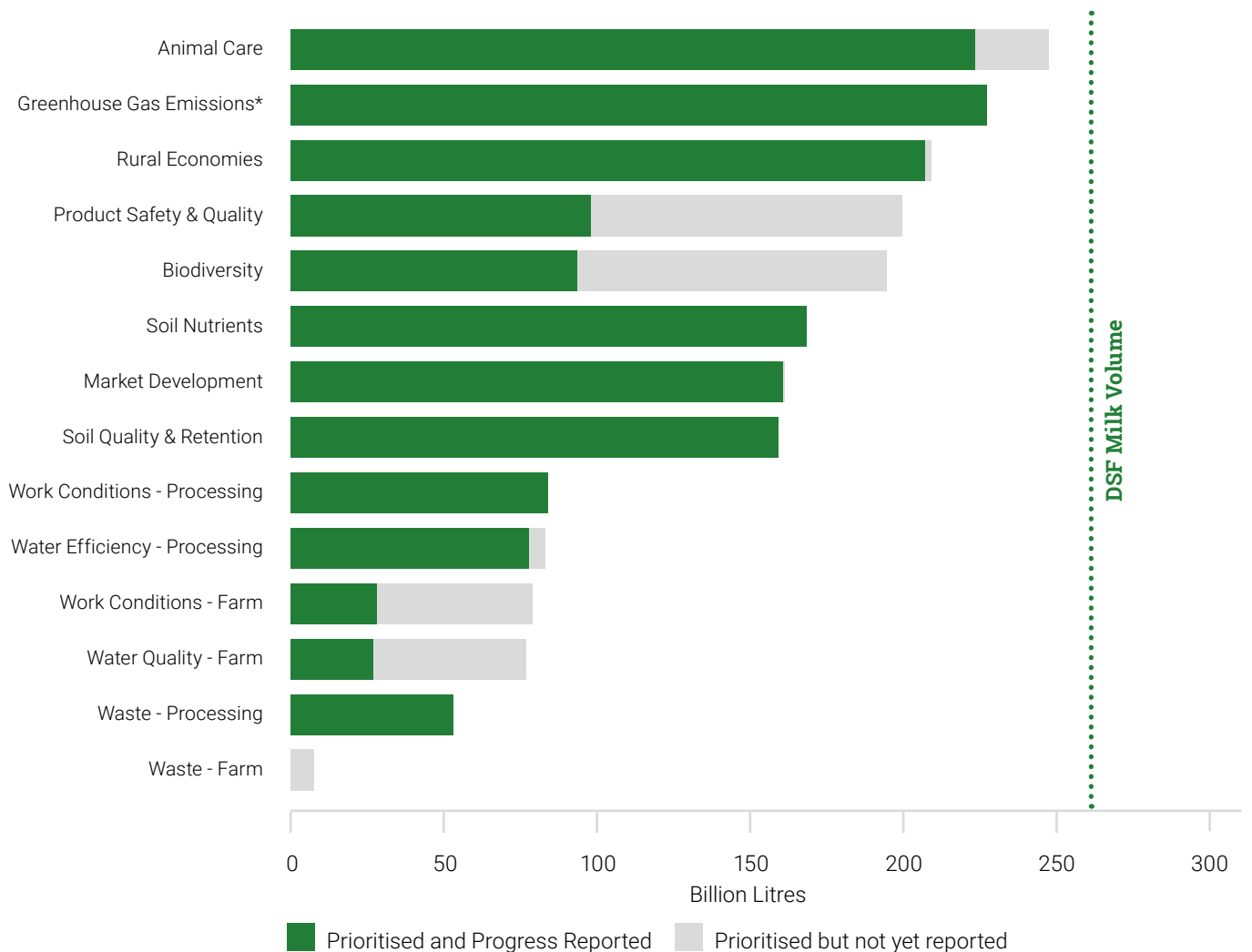
DSF milk volume: 261 Billion Litres



2022 DSF Milk Volume, Priorities and Reporting

Milk Production in Billion Litres

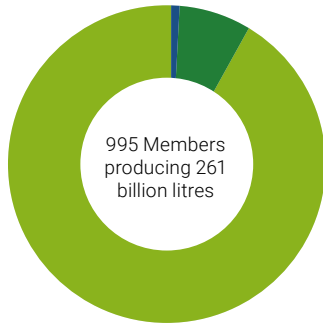
- For the first time, Animal Care was the number one priority for DSF members, closely followed by GHG emissions.
- Rural Economies was the third most prioritised Criteria, reflecting the increasing emphasis on economic sustainability.



*Reporting for entire global dairy sector provided by FAO 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



- 71** Implementing
- 10** Aggregating
- 914** Organisations represented by aggregating members

Access more information on the DSF [membership categories](#).

New DSF members in 2022

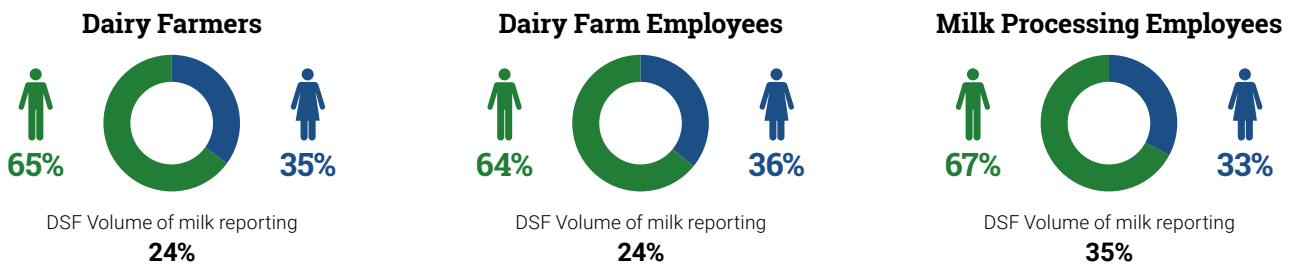


2022 Snapshot - Total Membership



• Many family farms consist of partnerships between different family members, this results in more than one farmer per farm.

Gender and Employment



2022 is the first year of reporting gender and farm staff employment information – the DSF will increase reporting in this important area in the future as members implement the data capturing process.



Action on Priorities

The data clearly reflects that reporting levels and activity within individual Criteria are returning to pre-pandemic levels as members are again emphasising existing and establishing new sustainability programs.

Key

1. Criteria: e.g. GHG Emissions.
2. **Strategic Intent:** When prioritised this is the members focus.
3. **Indicator Metric:** Members provide this annual reporting to the DSF.
4. The progress report: 2022 aggregated reporting and new baseline.
5. Supporting information: Additional information supporting the reporting.

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

* 2022 performance against the 2021 baseline is reported in the first doughnut in blue.



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.

Arithmetic mean of Somatic Cell Count across the reporting period.

All reporting members	2018	2019	2020	2021	2022	Change from 2021 to 2022
Volume of milk reporting (billion litres)	213.3	188.8	200.5	205.1	223.4	+18.3 billion litres
Average annual weighted Somatic Cell Count	201,000	183,539	182,108	178,478	183,347	+2.7%

- The milk volume of DSF members reporting on this Criteria increased 18.3 billion litres vs. 2021.
- DSF is currently considering a more comprehensive indicator for Animal Care.

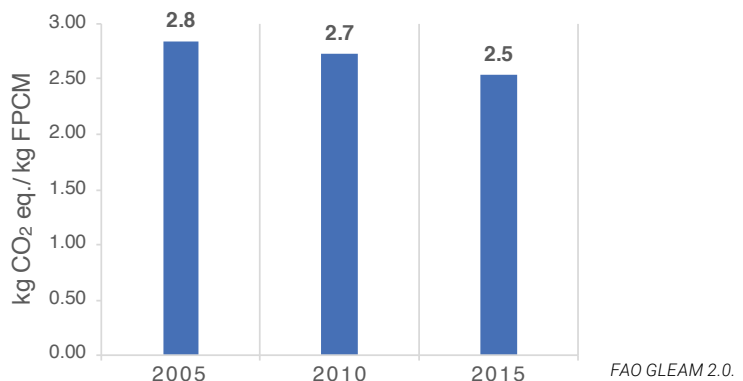


GHG Emissions

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

DSF is working with FAO on the next global update to the 2005-2015 report (2015-2020) of the sector's emissions.

FAO "Climate Change and the Global Dairy Sector" report, 2005-2015:



- The full report can be accessed [here](#).
- DSF members that prioritise this Criteria are required to apply the latest version of the [The IDF Global Carbon Footprint Standard for the Dairy Sector](#).



Rural Economies

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

Total annual payments made to farmers for milk.

All members who prioritised	2019	2020	2021	2022	Change from 2021 to 2022
Milk volume reporting (billion litres)	138	172	174	207	+33
Total annual payment made to farmers in US \$	\$59.28 billion	\$71.75 billion	\$77.62 billion	\$77.85 billion	\$0.23

- An increase of 33 billion litres prioritising this Criteria from 2021 levels.
- Average milk value is \$0.38/litre, a reduction of \$0.07/litre from 2021.

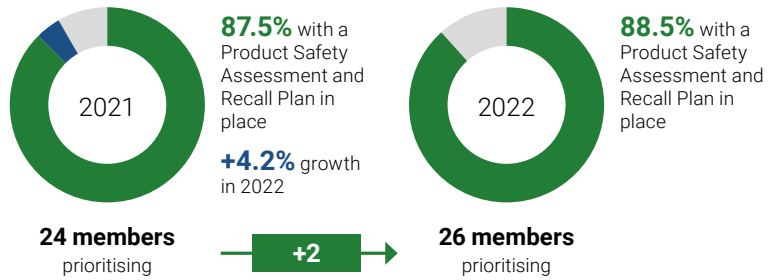
Exchange rates sourced from OandA.com



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.

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



Public Product Recalls

2019	2020	2021	2022	% prioritisation change 2021-2022
37	34	183	190	+4.2

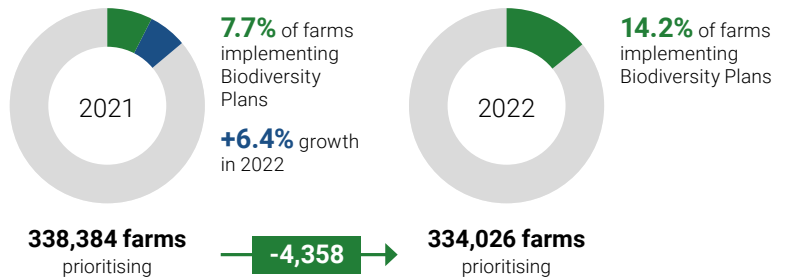
- New DSF members are prioritising this Criteria. Prioritisation of this Criteria is equivalent to 76.5% of DSF milk volume, an increase of 6.5% from 2021.
- The rise in public product recalls is due to more members now able to compile the data (often across several sites) and report this information.



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 - number of Biodiversity Plans implemented.



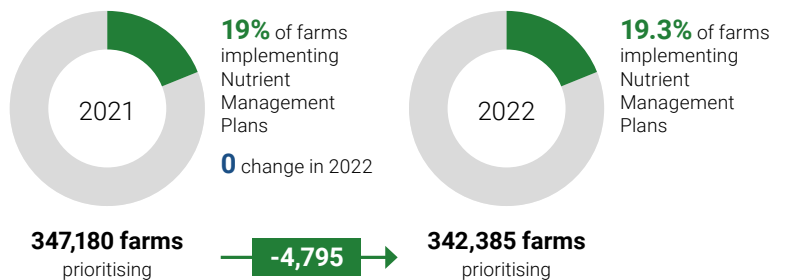
- Market consolidation in some of the more developed dairy economies is reflected in the farm numbers.
- An increase in the number of biodiversity plans is indicative of the post Covid delivery programs of DSF member (in particular aggregating) organisations.



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 - number of NMP's implemented.



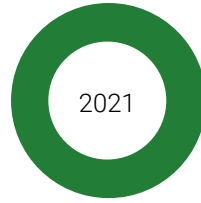
- Market consolidation in the more developed dairy economies and prioritisation updates has impacted farm numbers for 2022.



Market Development

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

Process in place to inform producers of market opportunities and challenges.



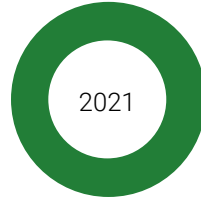
12 Members
prioritising

100% of Members prioritising Market Development had a process in place to inform farmers of market opportunities and challenges



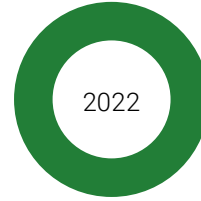
13 Members
prioritising

100% of Members prioritising Market Development had a process in place to inform farmers of market opportunities and challenges



313,464 farms
prioritising*

100% farms reached
-1.8% farms reached in 2022



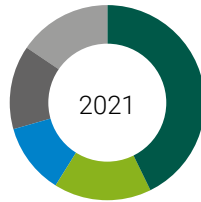
312,297 farms
prioritising

100% farms reached

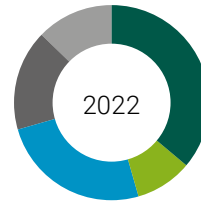


*Number of farms supplying DSF members that prioritised this Criteria. i.e. potential reach.

How did DSF Members communicate with their supplying farmers during 2022 about market opportunities (Total number of activities)?



42.8% Newsletter
16.2% Webinars
11.7% Farmer Meetings
13.9% Informal publications
15.4% Other (videos, on-line Q and A, weekly market updates in website portal)



36.3% Newsletter
9.3% Webinars
25.2% Farmer Meetings
16.5% Informal publications
12.7% Other (videos, on-line Q and A, weekly market updates in website portal)

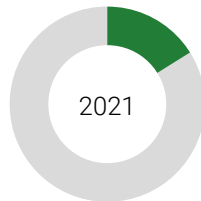
Note: Farmer meetings, informal publications and 'other' communication opportunities continue to increase post-COVID.



Soil Quality and Retention

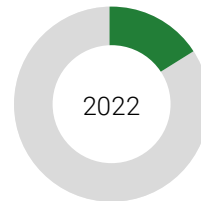
Soil quality and retention is proactively managed and enhanced to ensure optimum productivity.

Soil quality is maintained or improved by good management practices defined in a Soil Quality Management Plan (SQMP) - number of SQMP's implemented.



342,181 farms
prioritising

16.2% of farms implementing Soil Quality Management Plans
0 change in 2022



333,011 farms
prioritising

16.7% of farms have a Soil Quality and Retention Plan



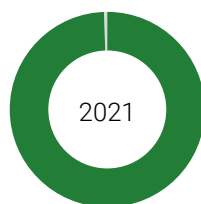
The decrease in farm numbers is correcting an incorrect number of farms reported in 2021.



Working Conditions – Processing

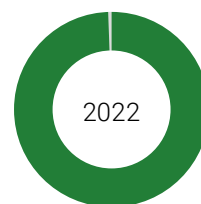
Across the dairy value chain workers operate in a safe environment, and their rights are respected and promoted.

A Facility Safety Plan (FSP) is implemented to ensure worker safety - number of FSP's implemented.



1,650 processing plants
prioritising

99.6% of processing plants implementing Facility Safety Plans
0 change in 2022



1,648 processing plants
prioritising

99.6% of processing plants implementing Facility Safety Plans





Water Availability and Quality - Processing Level

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

Water use efficiency for production and processing is measured - average volume of water (litres) per volume of product (kg).

All members who reported	2018	2019	2020	2021	2022	Change from 2021 to 2022
Weighted average water efficiency (litres water to produce kg of product)	4.52	5.50	5.48	7.11	7.10	No change
Range	2.1 – 14.9	0.77 – 38.37	0.68 – 22.6	0.09 – 25.0	1.2 – 23.4	

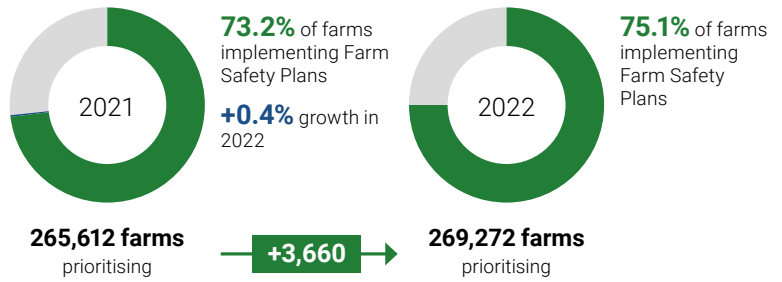
• Indicator does not differentiate between milk and dairy products produced by DSF membership.



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 - number of FSP's implemented.



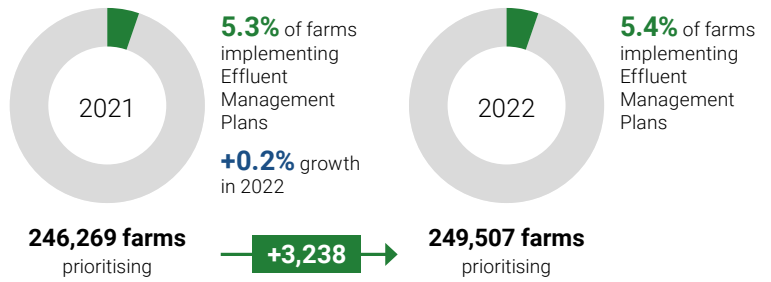
• The increase in farm numbers reflects increased prioritisation of this Criteria.



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 - number of EMP's implemented.



• The increase in farm numbers reflects increased prioritisation of this Criteria.



Waste - Processing Level

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

Mass of waste to landfill per year.

All members who prioritised	2019	2020	2021	2022	Change from 2021 to 2022
Total number of processing plants	323	299	351	399	+48 plants
Tonnes of waste to landfill in the year	45,181	41,591	550,815 71,281	81,835	+468,980 +10,554

• The reporting for the 2021 year by one member has been identified as incorrect – see table with original number struck out.

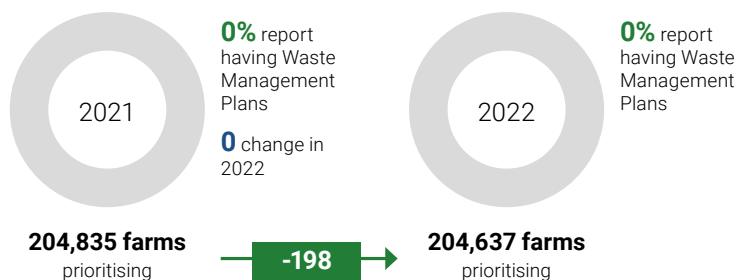
• Members who prioritised this Criteria in 2022 reported an increase of 48 processing plants.



Waste - Farm Level

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

Implementation of a Waste Management Plan (WMP) - number of WMP's implemented.



• DSF is developing support materials for members who have prioritised this Criteria and are not in a position to report using the Indicator Metric.