



Australian Beef
Sustainability
Framework

Annual Update 2024

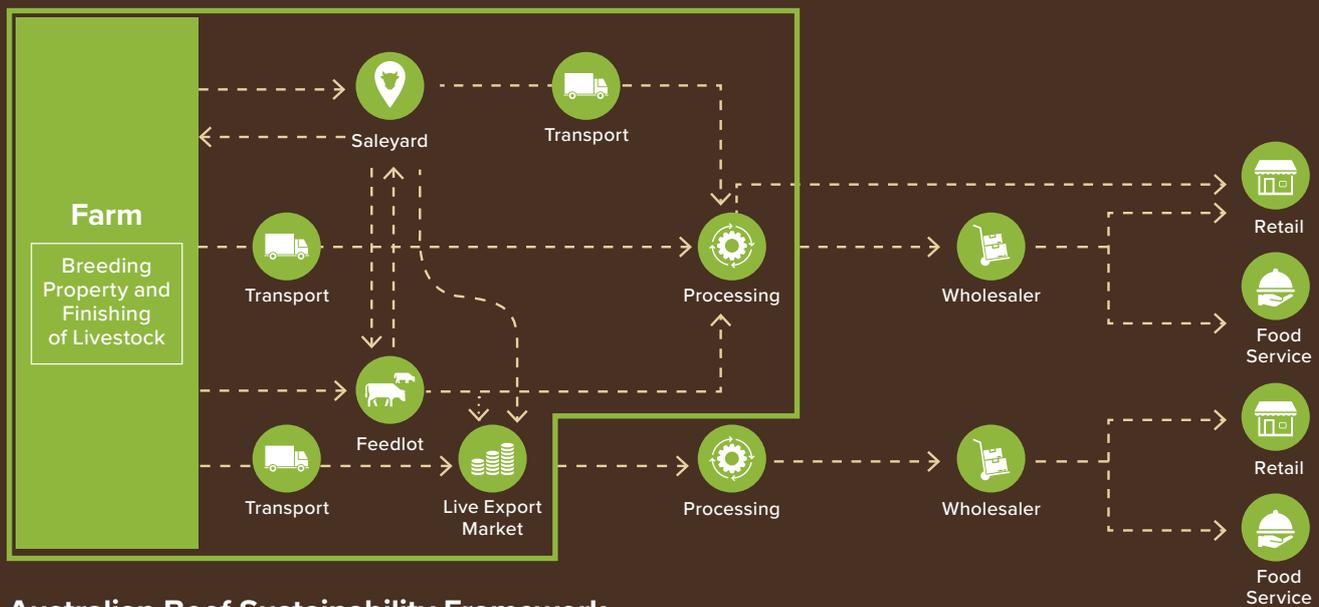


About this Update

The 2024 Annual Update has been prepared with reference to the Global Reporting Initiative (GRI) Standards, specifically the applications of GRI principles, general disclosures and material topics, as well as GRI 13: Sector Standard for Agriculture, Aquaculture and Fishing and the topics considered to be material by the Australian beef industry.

The reporting boundary covers the actions of the Australian beef value chain, including on-farm production, saleyards, feedlots, transport, processing, and live export (highlighted by the green line below).

Unless otherwise stated, this report presents information for the period of 1 June 2023 to 30 April 2024.



Australian Beef Sustainability Framework

The Australian Beef Sustainability Framework (ABSF) is an initiative of the Red Meat Advisory Council (RMAC) to reduce risks and leverage opportunities by managing what is most important to the Australian beef industry's stakeholders, as identified in the materiality assessment undertaken in 2020 (Page 60). It shows the industry's intent to be accountable and to accurately tell the story of the Australian beef industry.

The ABSF:

- » Promotes industry transparency and progress to customers and the community
- » Informs industry investment for continuous improvement in areas most important to our stakeholders
- » Helps protect and grow access to investment and finance by providing evidence of performance and improvement
- » Fosters constructive relationships with stakeholders to work collaboratively on improvement.

The ABSF does not:

- » Establish or endorse measurement systems at an individual business level
- » Provide an accreditation or certification system
- » Endorse prescriptive management practices
- » Create additional work for individual businesses.

What is beef sustainability?

Sustainability is the production of beef in a manner that is socially, environmentally, and economically responsible. We do this through the care of natural resources, people and the community, the health and welfare of animals, and the drive for continual improvement.

Australian Beef Sustainability Framework vision

A thriving Australian beef industry that strives to continually improve the wellbeing of people, animals, and the environment.

Beef

Beef is a rich source of essential nutrients that contribute to overall health and wellbeing. It is one of the most widely consumed and popular types of meat globally.

The meat can be prepared and enjoyed in various ways, including grilling, roasting, stewing, or grinding into hamburger patties. Different cuts of beef offer distinct textures and flavours, making it a versatile ingredient in a wide range of culinary traditions around the world.

Beef refers to the meat obtained from cattle, particularly from the muscles of the animal. It is an excellent protein source, providing all nine essential amino acids necessary for the body's growth, maintenance, and repair of tissues. Beef is

particularly abundant in high-quality protein, iron, zinc, and B vitamins such as B12 and niacin. Iron from beef is heme iron, which is more easily absorbed by the body compared to non-heme iron found in plant sources. This makes beef an important dietary component for preventing iron deficiency and anaemia. Additionally, beef contains phosphorus, selenium, and various other micronutrients that play crucial roles in metabolic processes, immune function, and bone health.



Fast Facts



The beef industry contributed **\$20.1 billion** to Australia's GDP in 2021-22.



Australia produced **1.9 million** tonnes carcass weight of beef and veal in 2022 – equivalent to 29.2 billion meals of recommended red meat daily intake.



2.7 million cattle were turned off from feedlots in 2022, representing 46% of all cattle slaughtered.



Globally, beef consumption increased **1.2%** between 2021 and 2022.



85% of red meat and industry employees live in rural and regional areas in 2021/22.



The Australian cattle herd reached **28.7 million** head in 2023.



On average, Australians consumed **23.7kg** of beef per capita in 2022 - approximately 460g per person per week.

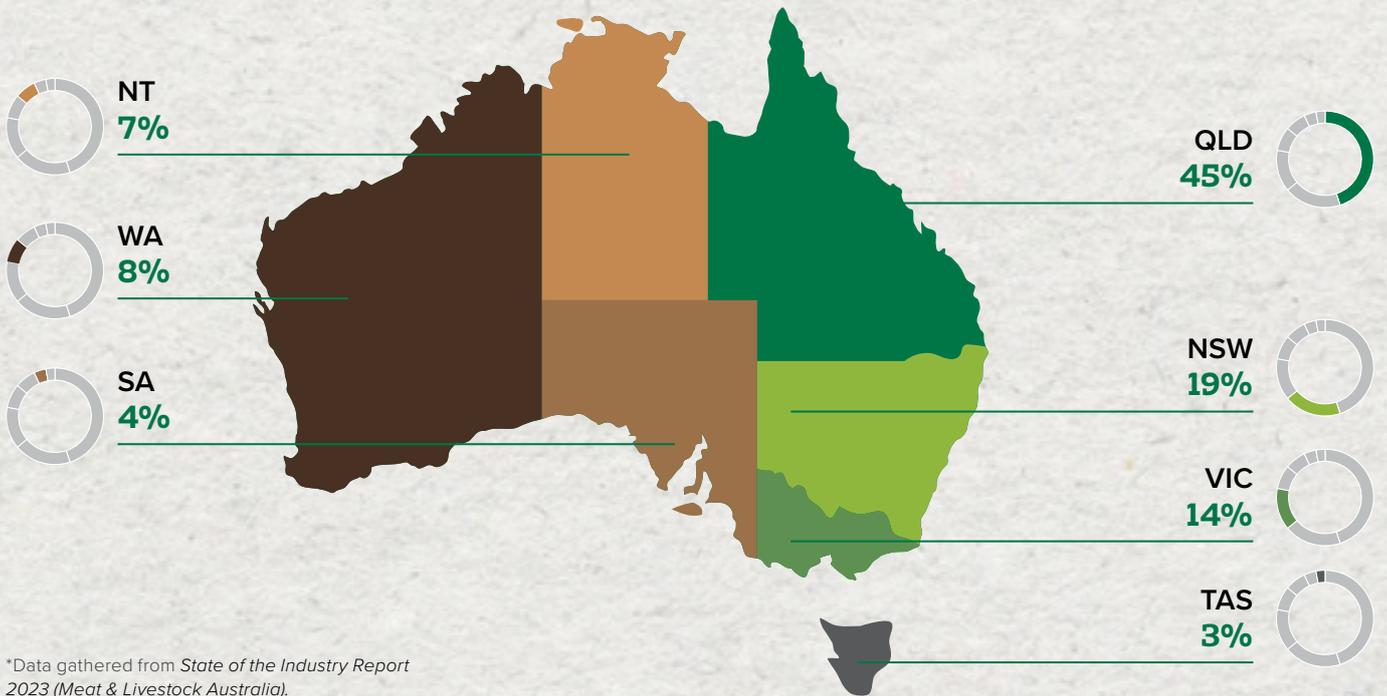


187,916 people were directly employed in the red meat and livestock industry in 2021/22 and an additional 245,473 jobs were supported by the industry.



661,392 live cattle were exported in 2023. This is a 13% increase year on year.

Australian cattle herd by state:



*Data gathered from *State of the Industry Report 2023* (Meat & Livestock Australia).



The Australian beef industry in the spirit of reconciliation acknowledges the Australian Aboriginal and Torres Strait Islander peoples throughout Australia. We recognise their continuing connection to the land, waters and seas, and their enduring care for country. We pay our respects to their elders, past, present and emerging, as we share in the custodianship of our nation’s resources for the benefit of all people.



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Highlights



Significant increase in prices of livestock flowed on to a 49% increase in the beef industry's contribution to Australia's GDP between 2021 and 2023.



81% of producers are adopting practices to improve soil water retention.



In 2021, the Australian beef industry had reduced its net CO₂e emissions by 78.2% since 2005.



58% of beef producers are either purchasing renewable energy or generating their own on farm.

Challenges



The Eastern States Young Cattle Indicator (EYCI) dropped by almost 40% between July and September 2023, triggered by a dry seasonal outlook and high stock numbers after a multi-year herd rebuild.



An El Niño weather event affected areas of eastern Australia in the second half of 2023, as the percentage of Natural Resource Management regions achieving healthy groundcover thresholds decreased to 57.41%.



Ongoing emergency animal disease risk in near-neighbour countries continues to create uncertainty in the beef industry.



Almost 160 million hectares surveyed of grazing land is being actively managed for biodiversity, greater than the size of all European Union farms combined.



In 2023, there was a 13% increase in live cattle exports (584,123 to 661,392), with the mortality rate remaining at a record low of 0.05%.



In 2021, carbon sequestered in vegetation on beef cattle properties increased to 31.31 Mt CO₂e.



The Australian beef cattle industry had 100% compliance with antibiotic Maximum Residue Limits for the second consecutive year.



Prolonged summer temperatures and high humidity may lead to heat stress events, with the feedlot sector actively working with affected feedlot operators and stakeholders, including Chief Veterinary Officers, government agencies and the RSPCA, to respond to these events.



Delays in the release of key data sets have made it difficult to provide updates against industry priorities and indicators.



Deteriorating security in the Middle East caused delays and logistical issues key strategic shipping routes, affecting meat and live exports from Australia.

RMAC Chair's Letter



John McKillop

Independent Chair
Red Meat Advisory Council

The 2024 Australian Beef Sustainability Framework (ABSF) Annual Update provides further demonstrated evidence that the ABSF continues to enhance its already important role of monitoring and reporting on the Australian beef industry's progress towards achieving improved sustainability outcomes.

The ABSF is a collaborative forum that brings together diverse stakeholders from across the beef supply chain. Producers, feed lotters, exporters, processors, retailers, government and non-government organisations and consumers collaborate to drive positive change, monitor progress, and address sustainability challenges.

Sustainability continues to be a core pillar of the industry, driving nearly every facet of our industry activity. The regular monitoring, evaluation, feedback loops and reporting by the ABSF enable all stakeholders to stay responsive to evolving challenges and opportunities and guiding us on our continuous improvement journey. The fact that the ABSF Annual Updates ensure that this is undertaken in a transparent and accountable manner cannot be overstated.

Furthermore, our industry's commitment to showing leadership globally remains unwavering. As global leaders in sustainable beef production, sharing our learnings and best practices helps to inspire and empower others across the globe to join us in the pursuit of a more sustainable future for the global beef industry.

As we reflect on the past year, I extend my gratitude to all stakeholders who have contributed to our collective progress.

A handwritten signature in black ink that reads "John McKillop". The signature is written in a cursive, slightly slanted style.

John McKillop

Independent Chair
Red Meat Advisory Council

SSG Chair's Letter



Mark Davie
Chair, SSG
Director, Keppel Brand

Welcome to the Australian Beef Sustainability Framework 2024 Annual Update. In this year's report there are two numbers I want to highlight: our emissions reduction on our 2005 baseline; and total mortality rate of cattle exported on sea voyages.

Our carbon figure for 2021 was a reduction of **78.2% from our 2005 baseline** – this is immensely positive and extremely complicated. It reflects a single point in time in 2021 where our carbon sequestered through vegetation was very high as landscapes responded to drought-breaking rain. After a period of drought destocking, methane emissions increased in line with an increase to the national herd. This number reflects a significant reduction in the beef industry's share of national carbon emissions **from 23.5% in 2005 to 6.7% in 2021**.

The net emissions methodology does not include soil carbon sequestration, which may have increased significantly in 2021. As pioneers in carbon measurement and reporting, the beef industry's measurement provides an insight into enormous fluctuations in carbon that occur within landscapes. To achieve bold carbon reduction aims society needs more accurate, cheaper, and timely carbon reporting.

The second figure to emphasise is our **total mortality rate of cattle exported on sea voyages, which was 0.05% in 2023**. This rate is testament not to industry regulation, but the implementation of processes by industry, every day. Our live export industry provides an enormous service to global food security and animal welfare. Opposition to live export is now limited to ideologues who are opposed to animal agriculture or those who simply want to signal to social circles that they care about animal welfare – but not enough to understand it of course. There are millions of children under the age of five with severe acute malnourishment in Asia. Any further opposition to industry through regulatory burden is now simply adding cost to our customer and to the food security of our neighbours.

Sustainability reporting is becoming the industry's biggest pressure point.

The Science Based Targets initiative (SBTi) and European Union Deforestation (EUDR) reporting requirements are driving activity and investment to respond to methods and definitions which have not been developed through peer-reviewed scientific process, do not relate to bioregions, and ignore millions of dollars of environmental research undertaken in Australia's context.

The EUDR forest definition is based on five metres canopy height and 10% canopy cover, nothing else. The tools to measure deforestation such as canopy change are not qualitative. As far as I can see, all current resources are going into mapping. The most important aspect of sustainability is outcomes. Intent must extend beyond corporate reporting to appease global standards or achieve executive performance targets. Time must be spent to better understand the challenge and opportunity. Nature preservation can and does go hand in hand with beef production.

The Australian beef industry is busy right across our supply chain on projects to deliver meaningful sustainability outcomes. This year's report provides snapshots of many activities undertaken within the supply chain to continuously improve for our planet, people, profit, and purpose - food security and feeding the world.

Thank you to members of the SSG for continuing to provide your time and expertise to the report and Jacob Betros for your level of care and efforts to be across a broad subject matter. Thank you to the RMAC Chair, John McKillop, the Board, and CEO, Alastair James, for your continued support.

Mark Davie
Chair, SSG
Director, Keppel Brand

Goals

On 8 June 2023, RMAC announced five Australian Beef Sustainability Goals to enhance industry's commitment to continual improvement, while also strengthening the ABSF as a yearly snapshot of sustainability performance.

Goals provide a transparent pathway for industry to meet consumer and community expectations. The introduction of targets, and progress against them, provides important points of proof to stakeholders, reinforces the values of the ABSF and further cements the Australian industry's position as a global leader in sustainability.

The Australian beef industry is committed to the following five goals:

 Best Animal Care	<p>The Australian beef industry is guided by the five domains of animal welfare. The industry provides all cattle with an environment in which they can thrive in accordance with these domains.</p>
 Environmental Stewardship	<p>By 2030, the Australian beef industry will demonstrate its net positive contribution to nature.</p>
 Climate	<p>The Australian beef industry will achieve net zero greenhouse gas emissions across its production and processing sectors by 2030.</p>
 Economic Resilience	<p>The value of Australian beef industry products and services doubles from 2020 levels by 2030 resulting in a profitable and resilient industry.</p>
 People & Community	<p>The Australian beef industry is trusted, attractive to a diverse workforce, a source of pride and belonging, and makes a positive contribution to the food security of Australian and international communities.</p>

The Sustainability Steering Group (SSG) is assisting industry in developing targets to demonstrate progress towards the overarching goals. Where targets have been set, these are stipulated in the respective priority disclosure.

Trusted Australian Beef

This report has not been externally assured and a position on external assurance is not yet developed. Some information in the report is the subject of other specific assurance and auditing regimes related to traceability, food safety, food quality or animal welfare.

On-Farm Assurance – Livestock Production Assurance (LPA) program

The Livestock Production Assurance Program (LPA) is an on-farm assurance program providing evidence of livestock history and on-farm practices when transferring animals through the value chain. The requirements of LPA underpin market access for Australian red meat, providing customer assurance around food safety and ethical production. An LPA National Vendor Declaration (NVD) combines with the National Livestock Identification System (NLIS) to provide evidence of the food safety status of every animal as it moves through the supply chain.

National Vendor Declaration (NVD)

The LPA NVD communicates the food safety and treatment status of every animal every time it moves between properties, to saleyards or processors. NVDs are key to Australian red meat traceability and market access, and act as a legal document of movement throughout the value chain. All declarations must be supported by accurate farm records. This is a pledge that the meat has been produced safely and ethically on-farm and meets biosecurity requirements.

Identification and Traceability – National Livestock Identification System (NLIS)

NLIS is Australia's system for the identification and traceability of cattle. The NLIS combines three elements to enable the lifetime traceability of animals: a visual or electronic ear tag, a Property Identification Code (PIC) for identification of physical location, and an online database to store and correlate the data. In 2023, Integrity Systems Company received a \$22.5 million grant from the Federal Government to enhance the NLIS database and supporting systems.

National Feedlot Accreditation Scheme (NFAS)

The National Feedlot Accreditation Scheme (NFAS) is the feedlot industry's quality management system which underpins the integrity of certified grain-fed beef. NFAS was Australia's first agricultural quality assurance scheme and has been operational for 29 years. NFAS underpins the Australian feedlot industry's reputation for producing high-quality grain-fed beef that meets food safety, animal welfare and environmental requirements. The Feedlot Industry Accreditation Committee, comprised of state government, industry and AUS-MEAT representatives, oversees the management of the Scheme.

Exporter Supply Chain Assurance System (ESCAS)

The Exporter Supply Chain Assurance System (ESCAS) is a regulatory requirement which all Australian exporters must meet to export feeder or slaughter livestock from Australia.

ESCAS requires exporters to have arrangements in place for the humane handling and slaughter of livestock in the importing country, which must be in accordance with the World Organisation for Animal Health (WOAH) animal welfare recommendations. This applies to all importing country feedlots, depots, and abattoirs. It must include information about facilities and transport arrangements, including discharge from the vessel for livestock arriving by sea and processors.

The four principles of ESCAS are:

1. Animal welfare standards
2. Control through the supply chain
3. Traceability of livestock through the supply chain
4. Independent auditing of ESCAS facilities

Australia is the only country in the world with this kind of regulatory system.

Australian Livestock Processing Industry Animal Welfare Certification System (AAWCS)

The Australian Livestock Processing Industry Animal Welfare Certification System (AAWCS) is an independently audited certification program used by livestock processors to demonstrate compliance with industry best-practice animal welfare standards, from receipt of livestock to the

point of humane processing. AAWCS makes a significant contribution to whole-of-chain animal welfare outcomes, as there is a requirement in the Standard for processors to have animal welfare provisions in their arrangements with livestock suppliers and transporters. Certified establishments can demonstrate they are meeting, and exceeding, Australia's minimum mandatory animal welfare standards, as the Standards meet existing minimum legislative requirements, international requirements, and a number of commercial requirements.

Markets Profile

Over the past 20 years, global consumption of beef has been steadily increasing at annual rate of 1.2% for beef and veal.

There has been a steady decline in Australia's per capita consumption of red meat over the same period. Despite this, Australia remains one of the world's largest consumers of beef (7th), with per capita consumption in 2022 averaging 23.7kg. This represents the largest single market for the Australian beef industry.

In 2023, Australia's top three beef export destinations (by volume - shipped weight) were USA (245,849 tonnes swt, 22.7% of total exports) Japan (206,803 tonnes swt, 19.1% of total exports), and China (206,192 tonnes swt, 19% of total exports).

For live export, the top destinations (by head) were Indonesia (360,093 head, 53.2% of live exports), Vietnam (126,930 head, 18.8% of live exports), and China (78,723 head, 11.6% of live exports).



Market And Regulatory Forces

Emirates Declaration on Sustainable Agriculture

Australia endorsed the Emirates Declaration on Sustainable Agriculture, Resilient Food Systems and Climate Action at the United Nations Climate Change Conference (COP28). The declaration includes five objectives focusing on adaptation and resilience activities, promoting food security and nutrition, supporting agricultural workers, strengthening water management, and maximising climate and environmental benefits associated with agriculture. Signatories commit to expedite the integration of agriculture and food systems into climate action and, simultaneously, to mainstream climate action across policy agendas and actions related to agriculture and food systems.

The Kunming-Montreal Global Biodiversity Framework (GBF)

The Global Biodiversity Framework (GBF) continues to influence Australian policy makers, as Australia is one of 17 countries in the world described as “mega diverse”. In response, Australia has committed to protect and conserve 30% of land by 2030, zero new extinctions, real and significant climate action, and to establish a nature repair market. Additionally, Australia will host the first Global Nature Positive Summit in Sydney in October 2024.

Taskforce on Nature-related Financial Disclosures (TNFD)

In September 2023, the Taskforce on Nature-related Financial Disclosures (TNFD) released a set of disclosure recommendations and guidance for organisations to report and act on evolving nature-related dependencies, impacts, risks and opportunities. These enable businesses and financial institutions to integrate nature into decision making, and ultimately support a shift in global financial flows away from nature-negative outcomes and toward nature-positive outcomes. Many Australian companies have committed to reporting in alignment with the TNFD.

Mandatory Climate-Related Financial Disclosures

The Treasury, the Australian Government’s lead economic adviser, has committed to ensuring large businesses and financial institutions provide Australians and investors with greater transparency and accountability when it comes to their respective climate-related plans, financial risks, and opportunities. Under a proposed Bill, certain Australian entities will be required to include this information in their annual report from 1 January 2025 consistent with Australian reporting standards. These reporting standards are based on the International Financial Reporting Standards.

European Union Deforestation Regulation (EUDR)

From 30 December 2024, the European Union Deforestation Regulation (EUDR) will apply to any exporters of cattle, cocoa, coffee, oil palm, soya, and wood (or products derived from these commodities). Operators who place beef on the EU market will need to provide the EU-competent authorities with a due diligence statement, produced prior to the product’s arrival, to demonstrate their exports are not associated with deforestation or forest degradation.

Greenwashing

The use of environmental and sustainability claims is becoming more common in the marketing of consumer goods. However, in 2023, the Australian Competition and Consumer Commission (ACCC) expressed its concern following an internet sweep that found 57% of businesses reviewed were making misleading environmental claims, commonly referred to as “greenwashing”. The ACCC has declared tackling greenwashing as a priority issue for the agency, mirrored by corporate regulator the Australian Securities and Investments Commission (ASIC), which in 2023 launched its first ever Federal Court action alleging greenwashing.

Science Based Targets initiative (SBTi)

The number of companies committing to targets in alignment with the Science Based Targets initiative (SBTi) reached over 7,000, up from 5,000 the previous year. This demonstrates increasing corporate responsibility which will impact sourcing requirements for global supply chains. The SBTi Forest, Land and Agriculture guidance increases scrutiny on corporate responsibility regarding global greenhouse gas emissions from agriculture, and commit to zero deforestation targets by 2025. Recently, some organisations have had challenges in meeting the SBTi submission guidelines and methodologies.

Non-Tariff Barriers

Non-tariff barriers are trade rules which restrict the flow of goods and services, impacting market access and international competitiveness. Trading partners have the right, enshrined in the rules of the World Trade Organisation (WTO), to set trade rules to improve the health, safety and wellbeing of their citizens, and protect animal and plant life. However, such measures may become non-tariff barriers when unclear or unevenly applied, they exceed what is necessary to meet the objective, or they are introduced to unfairly advantage domestic industries.

Biosecurity

The threat of biosecurity incursions remains a risk to trade, as Australia increases the capacity of industry to prevent lumpy skin disease (LSD) and foot-and-mouth disease (FMD), both of which are impacting neighbouring countries. This has led to continued disruption in live export markets.

Agriculture, Land and Emissions Sectoral plans

RMAC and Cattle Australia (CA) both made submissions to the Government's Agriculture, Land and Emissions discussion paper. The discussion paper provided the opportunity to contribute to shaping the direction of the Government's proposed Agriculture, Land and Emissions plan to guide Australia's 2050 net-zero ambition. Both submissions highlighted the opportunity for the sector to be part of the emissions solution given we are custodians to over 50% of Australia's landmass. The sector has taken the lead and made significant investment in research, development, and adoption to minimize the negative impacts on the climate, more than any other sector. There is still so much potential, acknowledging the cyclical short-lived nature of biogenic methane, combined with the right government support, the beef industry is on its way to become climate neutral, having no additional impact on global temperature rise (global warming).



Sustainable Development Goals

The 17 United Nations Sustainable Development Goals (SDGs) provide an urgent call for action by all countries to work toward a shared blueprint for peace and prosperity for people and the planet, now and into the future. By understanding how the SDGs align with the ABSF, the Australian beef industry can better illustrate and communicate how it is contributing to sustainability in a global context.

The below diagram depicts which SDGs align with the ABSF. Adjacent to each ABSF priority heading in this update are the associated SDGs pertaining to it. The ABSF addresses SDGs 2 (zero hunger), 5 (gender equality), 6 (clean water and sanitation), 7 (affordable and clean energy), 8 (decent work and economic growth), 9 (industry, innovation and infrastructure), 10 (reduced inequalities), 12 (responsible consumption and production), 13 (climate action), 14 (life below water), 15 (life on land), and 17 (partnerships for the goals).

SUSTAINABLE DEVELOPMENT GOALS



Achieving SDG 2 (Zero Hunger) Without Breaching the 1.5 °C Threshold: A Global Roadmap, Part 1

SDG 2 aims to end hunger, achieve food security and improved nutrition, and promote sustainable agriculture. The Australian beef industry is imperative to achieving food security and improving nutrition, and contributes to SDG2 through the ABSF priorities of Climate Change Resilience, Productivity, Profitability, Market Access, Food Safety and Quality, and Nutrition.

During COP28, the United Nations released a global roadmap illustrating how agrifood systems transformation through accelerated climate actions will help to achieve food security and nutrition, today and tomorrow. This roadmap underscores the critical need to prioritise agrifood systems, not only to assure the right to food but also because these systems stand to offer the most to nature and climate. Climate finance must be redirected to the agrifood system, which currently represents just 4% of total climate financing. This redirection aligns with the overarching goal of the roadmap - safeguarding the pathway to the 1.5 °C target, ensuring sustainability, and securing the promise of food for today and tomorrow.

Scan the QR code to view the global roadmap



Principles

The ABSF is underpinned by five guiding principles – relevancy, inclusivity, credibility, practicality, and transparency. These principles guide the SSG decisions around implementation, engagement, recommendations and reporting.

The Framework principles are:

Relevance The priority is important to our customers, the community and the Australian beef industry, and is within the industry's scope of influence.	Inclusivity The constructive views of industry, customers, consumers, government and community groups as to how industry can continuously improve performance will be considered.	Credibility Decisions about themes, priorities, indicators and recommendations are grounded in evidence. They can, or have the potential to be, monitored and managed.	Practicality Indicators are realistic. The industry is able (within scope of influence) to make changes that represent value to the value chain through continuous improvement.	Transparency The industry can provide an open and honest picture of performance using the most appropriate data.

Global Roundtable For Sustainable Beef



GLOBAL ROUNDTABLE FOR
SUSTAINABLE BEEF

The ABSF is a member of the Global Roundtable for Sustainable Beef (GRSB), which envisions a world where beef is a trusted part of a thriving food system and in which the beef value chain is environmentally sound, socially responsible, and economically viable. The ABSF sits on the GRSB Board of Directors for the 2024 and 2025 calendar years joining Cattle Australia.

The GRSB mission is to advance, support, and communicate continual improvement in sustainability of the global beef value chain through leadership, science, and multi-stakeholder engagement and collaboration. The ABSF provides resources and expert advice to the GRSB.

In 2021, the GRSB released three global goals to be reached by 2030 which Australia has aligned with.

1. **ANIMAL HEALTH AND WELFARE:** provide cattle with an environment in which they can thrive through best practices.
2. **CLIMATE:** reduce the net global warming impact of beef by 30%.
3. **NATURE POSITIVE:** ensure the beef value chain is a net-positive contributor to nature.

The GRSB has 110 members across 24 countries, and represents producers, processors, allied services and industries, retailers, civil societies, national roundtables, and observers. Australian members of the GRSB include:

- » Australian Agricultural Company
- » Belvedere Agriculture
- » Cattle Australia
- » Meat & Livestock Australia
- » Mt Brisbane Droughtmasters
- » WA Regenerative Livestock Producers
- » Comgroup
- » Harvest Road
- » Woolworths Group
- » Certified Sustainable
- » Organic Systems & Solutions
- » The University of Queensland
- » Greenham
- » Smart Paddock
- » ProAgni

Members also include a number of global companies operating in Australia such as McDonalds, JBS, and Rabobank.

Scan the QR code to view the GRSB 2023 Annual Report



Stakeholder Engagement

Engaging with stakeholders ensures the ABSF is measuring, reporting, and addressing the issues the industry and community are interested in, and which genuinely influence the sustainability of Australian beef production.

These relationships help the ABSF, SSG and industry representatives make informed decisions, and allow the ABSF to provide stakeholders with the information they need to make better decisions.

The ABSF engages a wide range of stakeholders with an interest in the beef industry and who can affect or be affected by it. The stakeholders can be categorised as:

Internal Stakeholders		External Stakeholders
Industry Representative Bodies	Peak Industry Councils	Retailers & Food Service
	State Farming Organisations	Wholesalers & Distributors
	Research and Development Corporations	Special Interest Groups & Civil Societies
	Regional Advisory Committees	Banking & Investors
Agricultural Corporations	Production	Governments & Regulators
	Feedlot	Researchers & Consultants
	Processing	
	Live Export	
	Other	

Each stakeholder group has an associated level of engagement based on the International Association of Public Participation (IAP2) Spectrum. This spectrum articulates the level of engagement versus the level of impact on the decision, and the promise made to the stakeholder based on the level of engagement associated with them.



Industry Representative Bodies –
Collaborate



Agricultural Corporations –
Involve



External Stakeholders –
Consult

The ABSF engagement activities recognise those within and outside the industry must work together for the ABSF to be valuable, relevant, and robust. The commitment made is that all views are listened to and considered, with clear reporting of why or why not suggestions were actioned.



Consultative Committee

The Consultative Committee is an invaluable reference group for the ABSF, involving all identified stakeholders from Australia and international organisations. The Consultative Committee forums were held in August 2023 and February 2024, and focused on the development of the ABSF Strategic Plan, reviewing the 2023 Annual Update, and understanding the implications of international initiatives such as the TNFD. More than 100 stakeholders attended each forum.



Industry Forum

An annual industry forum is held to ensure ongoing engagement and ownership of the ABSF by the industry. This year's forum focused on the development of targets to meet the sustainability goals, and the enhancement of indicators to meet changing disclosure standards and frameworks. With the commitment to collaborate with these industry bodies, the forum provided a platform for partnerships in decision making and the identification of preferred solutions.



Digital engagement



The ABSF LinkedIn page has **3,535 followers**, an increase of **45%** over the previous year.



2,237 X (formerly Twitter) followers, with over **9,900** impressions.



eNews subscribers have increased to **752**, with a click through rate of **13%** (compared to the industry average of 7%)

Framework in Action

Agricultural Frameworks

The ABSF SSG members have maintained strong connections to other agricultural industry sustainability frameworks and initiatives.

The Sheep Sustainability Framework Sustainability Steering Group worked collaboratively with the ABSF SSG to align, where possible, priority indicators to allow for unified messaging between livestock industries and better use of resources when collecting data.

Similarly, the ABSF provided input into the Australian Hide and Skin Leather Exporters Association's development of a sustainability framework, to demonstrate the industry's commitment to sustainability, raise sustainability standards, and substantiate the industry's environmental and sustainability credentials. Ultimately, this will enhance Australia's reputation in the international leather market, a direct by-product of beef and imperative to the improvement of beef sustainability priorities.

The ABSF Secretariat met with the Australian Dairy Sustainability Framework Sustainability Steering Committee to discuss the future direction of both Frameworks and seek

to align messaging, given the increased interest in beef production from dairy cattle.

The Cotton Industry's Sustainability Framework – PLANET. PEOPLE. Paddock. – has also been engaged during the year, following its process to align indicators to emerging international frameworks and set targets in common priority areas.

The ABSF and CA continues to provide valuable input and advice to the development of the Australian Agricultural Sustainability Framework (AASF). The Secretariat has been involved in projects for the AASF Materiality Assessment and a CSIRO research study investigating the mechanisms by which the data needed to support the AASF can be identified and assessed for suitability. The ABSF hopes to see the benefit of the AASF through advocating for greater resources and the generation of multi-commodity-relevant data.

Industry Empowerment

To further strengthen the Australian beef industry's knowledge and understanding of sustainability standards and disclosures, a dedicated information session for the Peak Industry Councils was held by the ABSF.

This session covered key information regarding the GRI Standards, the world's most widely used standards for sustainability reporting. Over 160 policies in more than 60 countries and regions reference or require GRI.

Outcomes from the session included increased knowledge of how standards may influence business decisions,

social norms, market forces, and regulations. The session demonstrated the important role the ABSF is performing on industry's behalf, and the benefits to strengthening the governance and progression of industry's sustainability initiatives.

Global Representation

In November 2023, the ABSF was voted as one of the four roundtable constituency members to sit on the GRSB Board of Directors for the 2024 and 2025 calendar years.

The ABSF joins CA and 18 other GRSB members charged with approving the programs and policies of the GRSB. The high regard other organisations have for GRSB's policies and positions demands directors be knowledgeable of issues relating to the GRSB mission. This reflects the international reputation of the ABSF as having a comprehensive knowledge of sustainable beef production. It further ensures the Australian industry has a voice in global initiatives.

For the second consecutive year, the ABSF was well represented at the Global Agenda for Sustainable Livestock (GASL) 13th Multi-Stakeholder Partnership Meeting. SSG members Jenny O'Sullivan and Kari Moffat and SSG secretariat Jacob Betros attended the five-day meeting in Chiang Mai, Thailand, along with 270 other participants representing 55 countries. CA and Sheep Producers Australia also attended the meeting.

The primary objectives of the meeting were to assemble a diverse community of stakeholders and engage them in

global dialogues addressing challenges and envisioning innovative solutions regarding drivers of change affecting livestock systems within the four GASL sustainability domains: food and nutrition security; livelihoods and economic growth; animal health and welfare; and climate and resource use. The meeting's outcomes reflect a shared commitment to collaboration, innovation, and sustainability in the livestock sector, demonstrating the necessity for adaptive solutions and stakeholder engagement for a prosperous and balanced future.

The final global representation activity took part in Bangkok in November, where Jenny O'Sullivan and Jacob Betros participated in a seminar hosted by MLA and the Australian Embassy in Thailand. Dr Angela Macdonald, Australia's Ambassador to Thailand, emphasised the significance of sustainable agriculture for both nations, and highlighted the potential for further collaboration. The seminar attracted over 100 delegates, and provided Australian beef with a public relations value of approximately \$155,000 AUD.

Left to right: Jacob Betros (Manager - Beef Sustainability, MLA), Amber Parr (Agricultural Counsellor for Thailand, Australian Government), Dr Angela Macdonald PSM (Australian Ambassador to Thailand), Jenny O'Sullivan (Sustainability Steering Group Representative), and Spencer Whitaker (Market Development Manager APAC, MLA).



National Producer Survey of Sustainability Practices

In January and February 2024 MLA commissioned a national producer survey designed to track key on-farm sustainability measures over time. This was the fourth iteration of the survey. The survey was conducted by Kynetec, who are members of the Australian Market and Social Research Society and ESOMAR (a global membership association for market research), ensuring the survey followed the market research code of practice.

The survey was formulated to provide robust and statistically representative results across states and producer types.

This was guided by three factors:

- » Diversity of producers geographically and by size of herd
- » Overall size of the population
- » Sample size allowing for a maximum margin of error of 3.4% at a 95% confidence level, creating statistically valid results.

The SSG developed the survey with subject matter experts on the following topics:

- » Joining / Calving / Weaning
- » Identification
- » Castration
- » Dehorning, Disbudding & Tipping
- » Spaying
- » Vaccines
- » Transport
- » Euthanasia & Disposal
- » Quarantine Processes
- » Carbon Activities
- » Soil Management
- » Waste Management
- » Biodiversity and Land and Water Management
- » Training and WHS

814 beef cattle producers participated in the survey, a combination of voluntary online respondents and Computer Assisted Telephone Interviewing (CATI). CATI was utilised to target producer responses where sample quotas had not been met.

This survey has been used for data within this report, and is referenced as **E.SSF.0001**.

Changes From Previous Reporting Period

The SSG continues to investigate available data to ensure the industry is demonstrating its sustainability credentials on robust evidence. As a result of this, the following indicators have been added to this report:

- » Inclusion of cattle receiving appropriate pain relief for invasive animal husbandry practices - new data available through producer survey
- » Total mortality rate of cattle on domestic transport - new data available through Australian Government Sustainability Reporting Uplift Grant
- » Percentage of producers who generate and/or use renewable energy - new data available through producer survey

The following indicator has been removed from this report:

- » Tonnes of food waste recovered along the supply chain - no data

The Australian Beef Sustainability Framework

The Australian beef industry is committed to a transparent, sustainable pathway of best practice through the value chain.

The ABSF tracks performance of the industry against a series of indicators under four themes: Best Animal Care; Economic Resilience; Environmental Stewardship; and People and the Community. Within these themes the industry has identified 24 priority issues.

 <p>Best Animal Care</p> <ul style="list-style-type: none"> » Animal Husbandry » Biosecurity » Processing Practices » Livestock Transport » Health & Welfare 	 <p>Environmental Stewardship</p> <ul style="list-style-type: none"> » Biodiversity » Soil Health » Groundcover » Balance of Tree & Grass Cover » GHG Emissions & Carbon Capture » Water » Waste 	 <p>Economic Resilience</p> <ul style="list-style-type: none"> » Climate Change Resilience » Productivity » Profitability » Market Access 	 <p>People & The Community</p> <ul style="list-style-type: none"> » Food Safety & Quality » Nutrition » Work, Health & Safety » Labour Practices » Community Contribution » Diversity » Antimicrobial Stewardship » Capacity Building
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Trends

Each indicator's historical data has been analysed to determine if it is significantly trending between 2017 and the most recently available data. A 75% confidence interval has been applied to determine if there is an improvement or decline, or if the data has remained steady. Graphs of historical data are available on the ABSF website.

 = Improvement, or maximum limit reached

 = Decline

 = Steady

N/A = Data is unable to be trended, or is a new indicator

Each indicator has a data source, and more information on the source can be found in the References.



Best Animal Care

Australian Beef Industry Goal

The Australian beef industry is guided by the five domains of animal welfare. The industry provides all cattle with an environment in which they can thrive in accordance with these domains.

Targets

The Australian beef industry is committed to the pursuit of non-invasive replacements for surgical procedures. Until those are available, the industry aspires to 100% use of pain relief for these procedures by 2030.

The feedlot industry is working towards all cattle in Australian feedlots having access to shade by 2026.

Progress

Australia's unique climate, wide open spaces and natural environment allow cattle to live in their natural habitat. As Australia is an island, animals are naturally protected from diseases and are free to roam on protected pastures.

Livestock health and welfare is fundamental to the success and sustainability of every business, and Australian beef producers take their responsibilities very seriously. Because of producers' close interaction with their animals, they are best equipped to monitor the wellbeing of those under their care. Having this understanding ensures they deliver timely and appropriate treatment of livestock, or call on veterinary input when required.

The Australian beef industry recognises that statutory requirements are the minimum expectations of the industry and supports continuing research into animal welfare based

on science and public values. The industry also supports and invests in a range of animal health and welfare activities and practices. The industry supports the Australian Animal Welfare Standards and Guidelines for Cattle, and the incorporation of the Standards component into jurisdictional regulations.

The Australian beef industry recognises the Five Domains of Animal Welfare. These domains are an internationally recognised standard for optimal animal health and welfare. They provide a means of evaluating the welfare of an animal, with a strong focus on mental wellbeing and positive experiences. These domains are an internationally recognised framework through which animal welfare can be understood and evaluated. The strength in this framework lies in its focus not only on avoidance of negative experiences but also in the promotion of positive ones. The domains are:



Nutrition

Availability of quality feed and water



Environment

Atmospheric and environmental conditions



Health

Presence or absence of disease and/or injury



Behaviour

Restriction of expression or behaviour



Mental State

Subjective feelings and experiences

The Australian beef industry is committed to the pursuit of non-invasive replacements for invasive surgical procedures. Until replacements are available, the industry aspires to 100% use of effective and appropriate pain mitigation for these procedures by 2030. This target addresses an aspect of the health domain.

Other indicators within this theme cover health, behaviour, and mental state. The industry continues to investigate targets for these domains, while encouraging greater transparency with the community regarding animal welfare across the supply chain.

In 2023, the focus of the Australian beef industry remained strongly on the biosecurity of the industry. Northern Australia is in close proximity to Southeast Asia, making it a potential entry point for disease. The Department of Agriculture, Fisheries and Forestry established the Northern Australia Biosecurity Strategy (NABS) to minimise the likelihood of incursion from Northern Australia. As part of NABS, a network of private and government veterinarians was created, known as NABSnet. The primary goal of NABSnet is to support thorough veterinary investigations into significant disease events, with a particular focus on priority exotic diseases for the cattle industry. The network serves to enhance general surveillance by providing subsidised disease investigations, increased awareness of priority diseases, annual veterinary masterclasses, and ongoing professional development (Mackereth et al. 2024).

The Australian Lot Feeders' Association (ALFA) is working with stakeholders to ensure the feedlot industry is informed and prepared for an Emergency Animal Disease (EAD) incursion and is collaborating with Animal Health Australia (AHA) to review and enhance the AUSVETPLAN Feedlot Enterprise Manual. Concurrently, ALFA is crafting model biosecurity and EAD response procedures.

This work aims to empower feedlot operators with the ability to effectively implement AUSVETPLAN when required. Once completed, these resources will be shared with feedlots, bolstering their preparedness to prevent and respond to potential EAD outbreaks.

In addition, ALFA continues to promote the adoption of shade throughout 2023. The feedlot industry is working towards all cattle in Australian feedlots having access to shade by 2026.

MLA's investment in animal wellbeing research, development, extension, and adoption (RDE&A) safeguards Australia's livestock biosecurity and prioritises the wellbeing and proper care of livestock. The principles guiding the Animal Wellbeing Program towards achieving greater impact include increased efficiency of animal production, improvements in on-farm animal welfare and consumer perceptions of animal welfare, and higher profits for producers.





Animal Husbandry

Standards of practice consistent with Australian regulations and standards, and with international best practice, including appropriate action to minimise pain (including euthanasia, injury and disease).

	INDICATOR	DATA	TREND
1.1	Percentage of producers using appropriate pain relief for invasive husbandry practices	31% (2023)	●
1.2	Percentage of cattle receiving appropriate pain relief for invasive husbandry practices.	40% (2023)	N/A
1.3	Percentage of national studbook genetically polled	71.9% (2022)	●

Data Explained

1.1 - 1.2. Source: MLA Project E.SSF.0001

The Australian beef industry is committed to the pursuit of non-invasive replacements for invasive surgical procedures. Until these are available, the industry aspires to 100% use of effective and appropriate pain mitigation for these procedures by 2030.

This data comes from the producer survey commissioned by MLA in 2024. When undertaking invasive animal husbandry procedures (dehorning, disbudding, castration, and spaying) 352 respondents from 1,118 stated they use pain management. Further analysis showed that this represented approximately 40% of the national herd receiving appropriate pain relief when undergoing these procedures.

1.3. Source: Australian Registered Cattle Breeders Association

Polled cattle contain a genetic trait preventing the growth of horns. Horns can cause injury to other cattle and to people, and are often removed by disbudding, dehorning, or tipping. This is not needed for polled animals.

This data has been unable to be updated for this report. This figure is based on the 12 largest breeds in Australia and can be expected to be expressed in the Australian commercial cattle herd with approximately a five-year lag. This was an increase from 66.2% in 2010, and from 56.8% in 2000.

Snapshot of Activities

- » ALFA is working with MLA as well as state and industry regulators on research and development opportunities to further advance animal husbandry practices, including research into intensive housing.
- » Oral meloxicam has recently been reclassified from a veterinary prescribed to an over the counter drug and can now be purchased from rural retailers. This change will improve the accessibility of pain relief products for producers and support increased uptake of pain mitigation measures when painful husbandry procedures are deemed necessary.
- » Investment continues to search for effective analgesia (based on efficacy and duration of effect) for unavoidable painful procedures such as castration and dehorning. The program continually seeks “replacement” as the preferred strategy (particularly for invasive operations), although “refinement” or “relief” (from pain) may be required in the short and medium term.
- » MLA continues to invest producer levies into the development of a single-shot, immune-contraceptive vaccine for cattle, with latest results showing promising results where vaccinating against the zona pellucida (ZP), the outermost layer of the egg, would provoke an immune response with antibodies binding to the ZP preventing fertilisation for 12 months.



Biosecurity

Managing the risk of infectious diseases, invasive pests, or weeds to safeguard the industry, environment and people.

INDICATOR		DATA	TREND
2.1	Percentage of Australian cattle properties covered by a documented biosecurity plan	75.59% (2023)	●

Data Explained

2.1. Source: LPA Audits

To meet the requirements of the LPA program, each Property Identification Code (PIC) must have a formal, documented Farm Biosecurity Plan that addresses each of the following:

- » Manage and record the introduction and movement of livestock in a way that minimises the risk of introducing and/or spreading infectious diseases.
- » Where reasonable and practical, control people,

equipment and vehicles entering the property, thus minimising the potential for property contamination and, if possible, keep a record of such movements.

- » Prevent and control animal diseases on-farm by regularly monitoring and managing livestock.

Of the 3,045 cattle producers audited in 2023, 75.59% of PICs had a documented biosecurity plan. The remaining 743 were issued with a Corrective Action Request to provide a plan or face being withdrawn from the LPA.

Snapshot of Activities

- » Australia continues to be free from World Organisation for Animal Health (WOAH) Official Diseases. These include exotic diseases such as foot-and-mouth disease (FMD), lumpy skin disease (LSD), bovine spongiform encephalopathy (BSE), contagious bovine pleuropneumonia, and Rinderpest.
- » The AUSTVETPLAN response strategy for LSD and the response strategy for FMD were both updated in October 2023.
- » Progress continues on beef cattle feedlots and decontamination manuals, while work has been initiated on the AUSTVETPLAN operational manual for the destruction of animals.
- » ALFA is working with stakeholders to deliver a biosecurity project that aims to prevent, prepare for, and respond to a potential animal disease outbreak within the feedlot industry, including conducting composting trials as part of EAD preparedness and the destruction, disposal and decontamination process.
- » Veterinarians observe 290,000 cattle or 42% of the Kimberley herd per annum to provide qualitative assurance that the readily recognisable diseases LSD and FMD would be detected in a timely manner in the event of an incursion into Northern Australia.
- » As per the Australian Standards for the Export of Livestock criteria, cattle are inspected for signs of disease by an Australian Accredited Veterinarian at registered export depots prior to live export. Similarly, an On-Plant Veterinary Officer inspects the cattle before slaughter for meat export, to determine their suitability for processing.
- » MLA has partnered with the Federal government to commence the delivery of a \$2 million, 18-month Biosecurity Support Project in Indonesia. The project is supporting Indonesia's biosecurity capability to combat recent outbreaks of LSD and FMD and is assisting in maintaining market access for the live export trade from Australia.

The project has engaged 35 facilities for in-depth biosecurity consultancy with AUSVET, including risk assessments and training workshops on cost-effective biosecurity measures.
- » In complementary work, MLA, through the Livestock Export Program, has facilitated disease recognition and management, comprising five workshops and 20 necropsy (post-mortem examinations of animals) training sessions for feedlot animal health and veterinary personnel, that attracted more than 341 attendees.



Processing Practices

The humane processing of animals at processing facilities is consistent with Australian regulations and standards, and with international best practice.

	INDICATOR	DATA	TREND
3.1	Percentage of cattle processed through an establishment accredited under the Australian Livestock Processing Industry Animal Welfare Certification System (AAWCS)	97.01% (2023)	●
3.2	Percentage of exported cattle processed through an Exporter Supply Chain Assurance System (ESCAS) accredited establishment	100% (2023)	●

Data Explained

3.1. Source: MLA, Aggregated slaughter numbers from accredited establishments

AAWCS is an independently audited certification program used by Australian livestock processors to demonstrate compliance with industry best practice animal welfare standards, from the receipt of livestock to the point of humane processing. Australia's 50 AAWCS-accredited processing facilities represented 97% of the total slaughter for cattle in 2023.

3.2. Source: Department of Agriculture, Fisheries and Forestry

Australian Exporters who export livestock under feeder and slaughter protocols are required to have an ESCAS in place. This covers animal welfare, control and traceability through the supply chain, and independent auditing.

DAFF consignments and non-compliance data were used to develop this indicator. There were no investigations involving cattle throughout 2023.

The outstanding investigation from 2021 found that 18 cattle had been involved in a non-compliance assessment. 2021 data is restated to 99.9% compliance.

Snapshot of Activities

- » AMIC endorsed the incorporation of video surveillance systems as a mandatory requirement of AAWCS from 2026. This latest update is a reflection of the program evolving to ensure it remains a world-leading, best-practice certification system, and demonstrates the processing sector's commitment to proper, stringent, and accountable animal welfare practices through the supply chain. Video surveillance systems, when incorporated into quality management systems, is a technology for processors to monitor and validate animal welfare in processing plants. AMIC will begin the process of updating the AAWCS standards in 2024.



Livestock Transport

Handling procedures in transport consistent with Australian regulations and standards, and with international best practice on animal health and welfare.

INDICATOR		DATA	TREND
4.1	Total mortality rate of cattle exported on sea voyages	0.05% (2023)	●
4.2	Total mortality rate of cattle on domestic road transport	N/A	N/A

Data Explained

4.1. Source: Department of Agriculture, Fisheries and Forestry, Live Animal Export Statistics

Every six months, the Federal Minister must table in Parliament a report from the department that includes livestock mortalities on every sea voyage. In accordance with the requirements of the *Export Control Act 2020*, the report relates only to information provided to the Secretary or a delegate during the reporting period, whether or not the voyages occurred during the reporting period. This data indicates there were 332 cattle mortalities from 661,392 head exported in 2023.

4.2. Source: Meat & Livestock Australia - aggregated data

Millions of cattle are transported domestically annually. Safe, efficient, and humane livestock transport improves welfare outcomes for livestock, boosts profits for the supply chain, and facilitates industry sustainability.

Through an Australian Government Sustainability Reporting Uplift Grant, the industry has begun collecting data on livestock transported domestically by road. An initial sample has been collected for a segment of domestic road transport, however is not large enough to be representative. The data found that there were no mortalities from 187,023 head transported between feedlots and processing by approximately 2,806 trucks in 2023. Work continues to expand the sample size in 2024.

Snapshot of Activities

- » LiveCorp and MLA provided assistance through the Livestock Export Program to Vietnam in order to develop national animal welfare standards consistent with those applying to imported Australian-bred cattle.
- » Australia remains the only exporter of live animals requiring the industry to ensure that animal welfare for exported livestock in destination countries meets (and surpasses) the guidelines set by the WOA.
 - » Transport by heavy vehicle is a significant aspect of lot feeding. The feedlot industry relies on the use of heavy vehicles to transport cattle to and from feedlots as well as for the delivery of feed commodities. ALFA continues to engage with regulators to ensure there is a balanced approach to the management of driver fatigue and animal welfare.



Health & Welfare

Livestock health and welfare including application of the five domains: nutrition; environment; health; behaviour, and mental state.

	INDICATOR	DATA	TREND
5.1	Percentage producer awareness of the Australian Animal Welfare Standards for Cattle	100% (2023)	●
5.2	Percentage compliance with National Feedlot Accreditation Scheme (NFAS) Animal Welfare Requirements	83.29% (2023)	●
5.3	Percentage of feedlot capacity with access to shade	68% (2023)	●
5.4	Percentage of producers vaccinating for clostridial diseases	76% (2023)	●
5.5	Percentage of producers undertaking low stress stock handling training	18.1% (2023)	●

Data Explained

5.1. Source: LPA Audits

Healthy animals are a priority of Australian beef businesses, and it is important stakeholders are assured livestock are cared for humanely and ethically. The LPA animal welfare requirements are based on the requirements of the Australian Animal Welfare Standards and Guidelines for cattle. LPA audits show a high level of awareness of this as LPA accreditation contains questions related to animal welfare that all producers must answer. Work continues to find more objective animal welfare data.

5.2. Source: NFAS Audits

A total of 63 non-conformances were raised, which translates to 83.29% compliant with the animal welfare requirements within the NFAS. The areas of non-conformance primarily related to ongoing feedlot implementation of animal welfare requirements that came into effect as of 1 January 2022. Feedlot operators require further development concerning changes to documentation to reflect any physical changes made to the feedlot environment. Audit findings display that physical animal welfare requirements are being met and supporting documentation is largely the aspects audits are finding as an issue.

5.3. Source: ALFA Survey

In November 2020, the Australian Lot Feeders' Association announced a shade policy, seeking that all cattle in Australian

feedlots have access to shade by 2026. The policy position reflects a proactive and forward-thinking approach that will ultimately assist the long-term viability and profitability of the industry. Since the launch of the ALFA Shade Initiative, the number of cattle under shade has increased from 810,376 head (56% of capacity) in June 2020 to 1,065,502 head (68% of Australia's feedlot capacity) in June 2023.

5.4. Source: MLA Project E.SSF.0001

When used correctly as part of a property health plan, vaccines can help prevent common endemic livestock diseases, leading to improved animal health, welfare, and productivity. Vaccines may also be used as part of industry biosecurity programs to limit the spread of, or help eradicate, emergency animal diseases.

This data represents 618 producers who vaccinate against clostridial diseases (not included botulism) out of 813 survey respondents.

5.5. Source: MLA Project E.SSF.0001

Low stress livestock handling is important to farming enterprises. It helps to reduce livestock stress, and improves livestock health, meat quality for the consumer and occupational health and safety. This data comes from the producer survey, where 409 respondents stated they learn animal husbandry practices from formal courses, of which 155 attended low stress livestock handling courses or workshops.

Snapshot of Activities

- » LiveCorp is funding a project being led by the Indonesian Society for Animal Science (ISPI) to increase the vaccination rate for local cattle by providing information about biosecurity, running vaccination events and holding training workshops.
- » Industry has invested in the development of safe, effective, long-acting vaccines and therapeutics. This development utilises modern technology (novel delivery systems/ antigens, sustained release formulations) and focuses on endemic and exotic diseases, as well as vaccines that will prevent fertility in cattle on pastoral systems.
- » MLA has partnered with NSW DPI (Elizabeth Macarthur Agricultural Institute) to develop vaccines for LSD and border disease using mRNA technology. The project will develop vaccine constructs that have been tested for efficacy and safety and submit these to the Australian Pesticide and Veterinary Medicine Authority to be registered for emergency use in the case of exotic diseases, as well as commercial purposes.
- » MLA and ALFA released *Best practice design and management manual* for covered and partially covered housing systems, helping lot feeders to weigh up the different options and considerations for covered housing systems.
- » The significant increase in shade capacity in feedlots has been achieved under a voluntary scheme, and despite the impact of COVID-19 on the cost of building materials and installation, and the incremental increase in feedlot capacity since commencement of the initiative. To achieve this, ALFA, in partnership with MLA, has invested significantly in research and extension to communicate the benefits of shade and provide best practice technical information to assist operators make informed decision about shade solutions for their environment.





Environmental Stewardship

Australian Beef Industry Goals

By 2030, the Australian beef industry will demonstrate its net positive contribution to nature.

The Australian beef industry will achieve net zero greenhouse gas emissions across its production and processing sectors by 2030.

Progress

NATURE POSITIVE

In order to meet this goal, the industry is investing in initiatives which promote improving and maintaining groundcover to ensure optimal nutritional requirements for livestock, which improves herd efficiency and productivity, and results in reduced emissions intensity.

The Australian government defines nature positive as a circumstance where nature - species and ecosystems - is being repaired and regenerating rather than being in decline.

In terms of biodiversity, MLA has partnered with the Macdoch Foundation on the Farming for the Future (FftF) project. The goal of FftF is to design, build and test a completely novel prototype platform and decision-making framework. This will link on-farm natural capital measures with benefits for farm businesses to deliver long-term economic, environmental and social benefits, so that Australian red meat producers can increase revenue derived from natural capital measurements. In addition, the "From Method to Market" project being conducted by MLA and Queensland Department of Agriculture and Fisheries is engaging with livestock producers and reviewing existing and developing scientific methods to support livestock producers to be remunerated for providing ecosystem services (for example, the generation of carbon credits, biodiversity credits, and water quality credits) in viable red meat production systems.

The Environmental Credentials for Grassfed Beef platform is now available for producers. This platform provides producers with learning materials across five sustainability themes: carbon balance; biodiversity stewardship; groundcover; tree cover; and drought resilience. It also enables producers to access, generate, and share data on indicators that represent performance across these themes to generate an environmental credential report that can be shared with the supply chain. MLA will manage the maintenance and improvement of this platform, ensuring the platform remains

free for producers to use and that improvements in remote sensing technology to inform indicators and enhance environmental credentialing can be included in the platform over time. These include acoustic sensing and eDNA technology as well as linkages with emerging methodologies such as Accounting for Nature, AgForce's AgCare program, the Australian Farm Biodiversity Certification Scheme, and BioCondition scoring, to better enable demonstration of biodiversity performance. Industry also plans to expand the opt-in automatic sharing of information beyond processors, to retailers and financial institutions.

Consumer demands for sustainably produced products are leading to actions which provide support for beef producers to manage groundcover and biodiversity in ways that demonstrate sustainability performance and improvement over time.

CN30

The key focus on the CN30 goal is delivering viable innovation to reduce net emissions and deliver productivity and profitability co-benefits to the producer. In 2024, several technologies in emissions avoidance will move from controlled trials to testing on commercial grazing properties. These include custom-designed lick blocks, direct injection into water troughs, and a biodegradable bolus and pellets to deliver methane-reducing additives to grazing and backgrounding cattle. This information will allow industry to assess which technologies stand to deliver cost-effective emissions reduction and will help guide industry towards more and more targeted investments. CN30 is about supporting tools, education and incentive mechanisms to accelerate adoption and increase the recognition of producers managing for lower emissions on farm. The Quick Start Carbon Calculator was launched as a simpler alternative to the more comprehensive Carbon Calculator for sheep and beef enterprises.

Progress

MLA has partnered with QUT and Agrimix to explore the potential to increase soil carbon from using the pasture legume *Desmanthus*, as part of a broader project that is also looking at soil carbon measurement technologies and the soil carbon increase potential from fertilising at depth, rotational grazing (time-controlled grazing) and transitioning from cropping to permanent pasture.

In 2023, the industry welcomed the successful bid of the Zero Net Emissions from Agriculture Cooperative Research Centre (ZNE-Ag CRC), a nationwide whole-of-agriculture fund with the goal to accelerate Australian agriculture's transition to below zero net emissions by 2050. MLA is a contributing partner, joining major agriculture and agrifood enterprises, AgTech subject matter experts, producer groups with thousands of farmer members, farm retail businesses, state and territory governments, and 10 universities. Livestock emissions is one of four priority investment streams, therefore the ZNE-Ag CRC will leverage additional research and extension funding from the \$300 million total funding over the next 10 years.

The Red Meat Industry's CN30 target aims to achieve net zero GHG emissions. In contrast, the goals of the Paris Agreement include temperature targets (such as to limit global warming to well below 2°C above pre-industrial levels) rather than net zero GHG reduction targets.

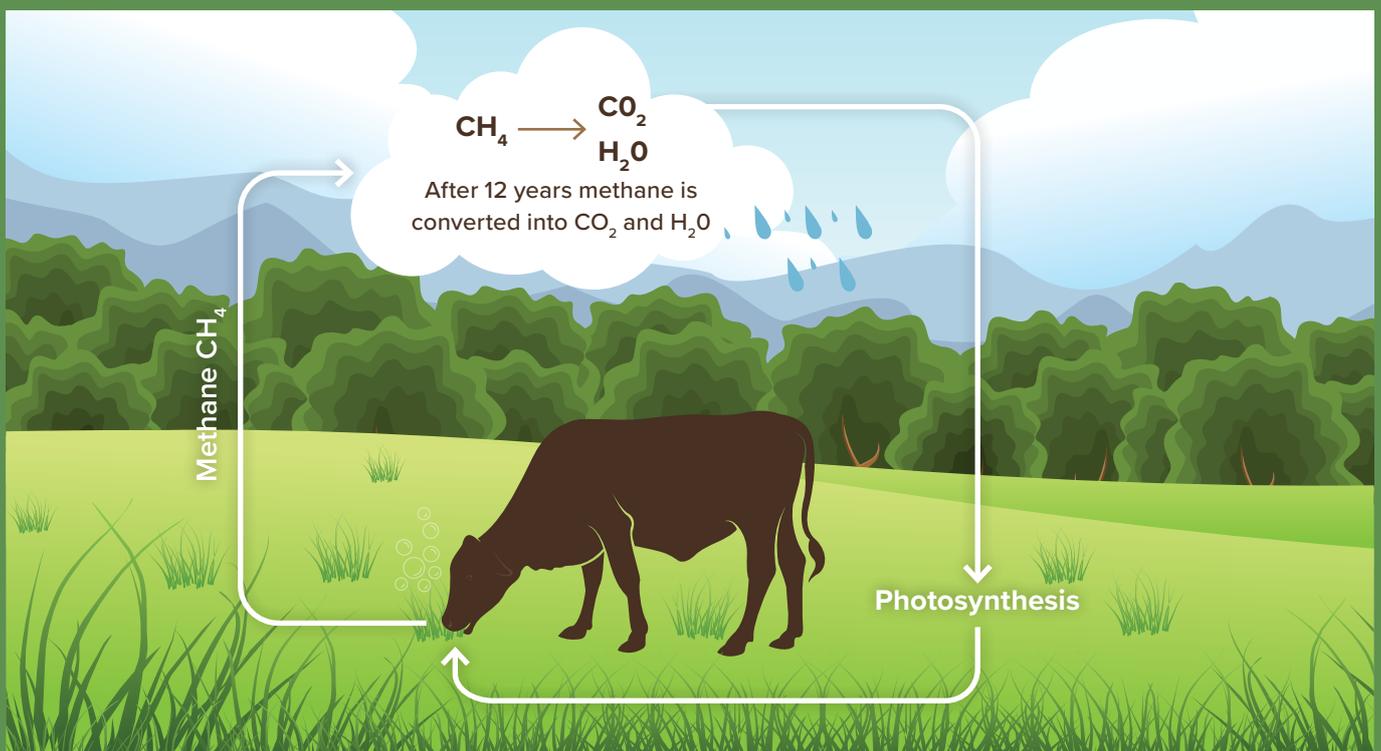
CLIMATE NEUTRAL

Whereby, Climate Neutral describes the position of not causing additional global temperature rise. This is important for ruminant industries where methane represents the majority

of GHG emissions, because methane is removed from the atmosphere at a much faster rate than carbon dioxide and nitrous oxide. This means that by reducing the amount of methane emitted to the atmosphere relative to a baseline year, industries can reach a position where their methane emissions are not causing additional temperature rise.

Carbon neutrality is commonly measured using Global Warming Potential (GWP). It reports the integral of radiative forcing over a future 20 (GWP20) or 100 (GWP100) year time horizon following a pulse emission. Climate neutrality can be measured by alternative metrics including GWP* (pronounced GWP-star), which assesses the future warming potential (compared to a baseline year) associated with a permanent change in the rate of a short-lived GHG (such as methane), and Radiative Forcing footprint (RF; reported in units of Watts per m²), which combines the radiative forcing from current year emissions and historical emissions remaining in the atmosphere.

Methane emissions from livestock are part of a biogenic cycle and are valued slightly differently to methane yielded from the fossil fuel sector. Methane has a shorter lifespan than long-lived greenhouse gases which persist in the atmosphere for thousands of years and are inherently linked with storage within soil and vegetation. A climate neutral position can be reached without methane emissions being reduced to zero. The beef industry is an important part of the solution to stabilise global warming. Future goals need to stimulate a positive impact on the climate, while maintaining profitability and productivity of our sector.





Biodiversity

Ensuring the conservation and enhancement of plant and animal species, genetic diversity, and natural ecosystems. This includes controlling and minimising the spread of invasive non-native species.

INDICATOR		DATA	TREND
6.1	Percentage of cattle-producing land managed for biodiversity outcomes through active management	55.07% (2023)	●

Data Explained

6.1. Source: MLA Project E.SSF.0001

This figure represents the area of land where on-farm management activities directly contribute to positive environmental and biodiversity outcomes. The measured activities align with the sustainability recommendations from government agencies, regional NRM organisations, and other land management groups. These results include both environmental management and active grazing management such as fencing, weed and pest management, paddock spelling, and water access management.

Close to 160 million hectares of over 290 million hectares surveyed were managed for biodiversity outcomes. The most common practices were weed control (88% of respondents), control of pest animals (65%), and destocking, or spelling pastured areas (55%).

Snapshot of Activities

- » Over 100 individuals from agribusiness, banking and producer groups trialled and provided feedback on the design of the Environmental Credentials for Grassfed Beef platform. The platform is due to be rolled out from May 2024.
- » The Spatial BioCondition model, designed to map state-wide vegetation conditions for biodiversity rather than site-specific conditions, has been found to be systematic and repeatable, meaning it could be a useful inclusion in the Environmental Credentials for Grassfed Beef project in the future.
- » The Method to Market Project (a collaboration between MLA and QDAF) found that there is a strong correlation between a suite of indicator bird species and vegetation condition scores. It also found that retention of shelter belts in Brigalow ecosystems has the potential to have a significant positive impact on biodiversity in grazing systems. This information will be vital in the development of biodiversity credits and a nature market.



Soil Health

Soil health including responsible fertiliser use, soil nutrients, soil loss, ability of soil to retain water and carbon, and the quality of topsoil.

INDICATOR		DATA	TREND
7.1	Percentage of cattle producers adopting practices to improve soil water retention	81% (2023)	●
7.2	Levels of soil carbon sequestration	No national-scale data currently exists. The industry is continuing to investigate methods to accurately report this indicator.	

Data Explained

7.1. Source: MLA Project E.SSF.0001

The data for this indicator is from a new source, as the SSG continue to attempt to identify a single indicator that expresses soil health at a national scale. The ABSF has utilised the MLA producer survey to fill the current gap on understanding the percentage of cattle producers adopting practices to improve soil water retention such as increasing organic matter and keeping the soil covered, implementing wind breaks to reduce evaporation from topsoil, or undertaking conservation tillage practices. This data represents 659 of 813 respondents who stated they undertake practices to improve soil water retention.

7.2. Under Development

Soils are the world's second-largest reservoirs of carbon. Plants and grasses remove carbon dioxide from the atmosphere and store it in the soil. Technologies and methodologies to measure carbon sequestration are a relatively recent concept, and trials are underway to verify scientifically sound methods which allow the industry to calculate the amount of carbon stored through farming practices on site and at a national scale.

Snapshot of Activities

- » Fungal abundance in soils has been found to be greater under time-controlled grazing, but this may be a feature of disturbance (for example, there is greater disturbance where blade ploughing is used in conventional grazing), rather than a mechanism related to the pattern of grazing.
- » Researchers from the University of Sydney have found the use of satellite imagery, combined with proximal sensing on the ground, is the best method to reduce the cost of soil organic carbon testing and improve certainty. The findings show that the Federal Government's target of reducing soil carbon measurement to \$3 per hectare is achievable.

- » Biocrusts - a community of bacteria, fungi, lichens, and mosses which sit on top of the soils - have been linked to increased soil fertility and carbon stocks in grazing landscapes. Scan the QR code for a short video on biocrusts.





Groundcover

12 RESPONSIBLE
CONSUMPTION
AND
PRODUCTION

Groundcover is a key indicator of land condition and refers to pasture plants, native species, and plant and tree leaf litter that can protect the soil surface from erosion.

	INDICATOR	DATA	TREND
8.1	Percentage of natural resource management regions achieving healthy groundcover thresholds	57.41% (2023)	●

Data Explained

8.1. Source: CIBO Labs - E.SUB.0007

This calculation is based on 31 of the 54 NRM regions achieving regionally appropriate healthy groundcover threshold for the late dry season (September as per available imagery). For rangeland regions in semi-arid parts of Australia, the threshold is 50% groundcover. This increases to 70% for coastal and tropical regions and 80% for high rainfall regions. This data is for

September 2023, the same month which the Bureau of Meteorology declared an El Nino climate pattern, following similar declaration's by the US Government and the World Meteorological Organization of the UN. El Nino increases the risk of drought, heatwaves, and bushfires in Australia, and was likely a factor in the decreased groundcover.

Further information on the thresholds is available from Leys et al. (2020).

Snapshot of Activities

» Research has demonstrated that effective stock management typically involves taking action prior to a deterioration in market conditions, so that producers maintain sufficient groundcover during sustained dry conditions.

Rotational grazing across smaller paddock sizes stimulates plant growth and maintains higher groundcover and herbage mass to help retain soil moisture in the landscape.

» Consolidated Pastoral Company has worked with the Clean Energy Regulator to undertake a Beef Cattle Herd Management Method (BCHM) project for five years, resulting in improved groundcover and the acquisition of almost 200,000 Australian Carbon Credit Units.



Balance of Tree and Grass Cover

Change in vegetation types associated with beef or feed production, including losses and gains in forests, woodlands and grasslands.

INDICATOR		DATA	TREND
9.1	Percentage of national forest cover gain on grazing properties	0.95% (2020-21)	N/A
9.2	Percentage of national forest cover loss on grazing properties	1.24% (2020-21)	N/A
9.3	Percentage of national woodland cover gain on grazing properties	3.17% (2020-21)	N/A
9.4	Percentage of national woodland cover loss on grazing properties	2.61% (2020-21)	N/A

Data Explained

9.1 - 9.4. Source: CIBO Labs - E.SUB.0007

This data has not been updated due a delay in the release of satellite imagery. Unlike previous versions of the National Forest and Sparse Woody Vegetation data releases where 35 tiles have been released as part of the product, only the 25 southern tiles were released as part of the 2022 release from the Department of Climate Change, Energy, the Environment and Water. The 10 northern tiles will be released as a separate product release, expected later in the year, as these are subject to a methodological change associated with the adoption of the Sentinel sensor and will be supplied at a different resolution.

Based on satellite imagery, these indicators represent national forest/woodland gain and loss from 2020 to 2021 across grazing properties. To put this in perspective, the net change in national woody (forest and woodland) cover extent was an increase of 0.06%. These figures can be difficult to interpret without regional context. The ABSF is continually investigating how healthy vegetation levels for each region can be represented in this national indicator.

These figures are for 2020-21, where much of Australia was beginning to break drought and still responding to bushfires. Of significant note is that forest on grazing land has increased by almost 780,000 hectares, coinciding with an increase in the national herd. This demonstrates the mutually beneficial relationship between livestock production, and the management of natural resources.

Further, the removal of primary vegetation is at a historic low of 0.43%. The area of forest on Northern Australian grazing properties (QLD, NT, WA) in 2021 reached its highest level since monitoring began in 1991 - accounting for almost 55 million hectares.

The United Nations Food and Agriculture Organization ranked Australia as Number Two for reforestation with an average net gain in forest area between 2010-2020 of 446,000 hectares per year (Food and Agriculture Organization of the United Nations' (FAO) Global Forest Resource Assessment 2020).

Snapshot of Activities

- » Cattle Australia has committed to developing a national framework to international reporting requirements for land management practices in the nation's beef production systems. This commitment will review definitions of deforestation and create a policy on land management suited to the Australian context, to maintain and grow market access opportunities globally. The outcome will provide greater transparency and traceability to the industry's customers and gives confidence to consumers and shareholders in the scientific validity of land management practices in Australian beef production systems.

The commitment was a key outcome following an industry roundtable meeting of more than 50 industry leaders from across the supply chain in November 2023. The group of 50 industry leaders from across the value chain, including leading producers, corporate agricultural companies, peak industry councils, research and development corporations, leading scientific organisations, government, state farming organisations, processors, retailers, and finance industry representatives discussed a national approach to international reporting requirements.

This will provide greater transparency and traceability to our customers and gives confidence to consumers and shareholders in the scientific validity of land management practices in Australian beef production systems. There has been extensive environmental research undertaken across Australia's diverse bioregions – resulting in an Australian Government-funded national Natural Resource Management reporting system.

The industry's vision is to use this information to develop a reporting standard that protects and enhances our uniquely Australian environment, and grow efficient and resilient

beef businesses and thriving rural communities. This work is crucial to ensure equitable outcomes for all producers by ensuring we can manage our landscapes in a way that supports positive biodiversity outcomes and ecosystem services, and by maintaining market access.

For more information scan the QR code:



- » AMPC instigated its research paper '*Defining Deforestation Free Supply Chains for Red Meat Products*' in response to concerns that international frameworks and corporate policies were becoming increasingly difficult to compare with deforestation-free definitions, and with commitments differing widely across regional and country contexts. The report identified arguments that could be made for demonstrating the sustainability credentials of the Australian red meat industry in respect to forests, noting that the interpretation of deforestation can differ based on local contexts, land use practices and data collection methods.



Current Australian Definitions

Forest	Woody vegetation with >20% canopy cover reaching 2m high with a minimum area of 0.2ha
Woodland	Woody vegetation with 5-20% tree canopy cover
Groundcover	Non-woody vegetation, such as grassland
Primary	Refers to forest or woodland present in 1988
Regrowth	Native vegetation recurring on an area of land that has been previously disturbed



GHG Emissions and Carbon Capture



The overall greenhouse gas emissions profile associated with beef production including the generation, mitigation, and sequestration of emissions (such as rumination, energy consumption, vegetation management, feed sourcing, sequestration, and soil carbon).

INDICATOR		DATA	TREND
10.1	Percentage total CO ₂ e reduced by beef industry from a 2005 baseline (GWP100)	78.2% (2021)	●
10.2	Net Mt of CO ₂ e emitted by the beef industry (GWP100)	27.27 (2021)	●
10.3	CO ₂ e emitted per kg liveweight when raising beef (GWP100)	13.1kg (2020)	●
10.4	CO ₂ e emitted per tonne HSCW when processing beef (GWP100)	476kg (2022)	●
10.5	Percentage energy demand met by biogas	10.5% (2022)	●
10.6	Carbon sequestered in on-farm vegetation (Mt CO ₂ e)	31.31 (2021)	●
10.7	Net emissions: Mt of CO ₂ e emitted by the beef industry over a 20-year time interval (GWP*)	N/A	N/A
10.8	Percentage of producers who generate and/or use renewable energy	58% (2023)	N/A

Data Explained

10.1. Source: CSIRO - B.CCH.2124

The industry is continuing to make progress towards its CN30 target. This figure captures net emissions from beef and land use-related emissions. A baseline year of 2005 has been chosen as it aligns with the Paris Agreement.

This metric is calculated through the GWP100 metric, a standardised practice recognised by the IPCC. While emissions from agricultural activities increased slightly from the increased herd size, sequestration from land use, land use change and forestry (LULUCF) was highest since reporting began in 2015. Sequestration from LULUCF was 22.68 Mt CO₂e, up from 0.58 Mt CO₂e in 2020.

10.2. Source: CSIRO - B.CCH.2124

Annual net emissions have decreased by 17.94 Mt CO₂e since 2020. This decrease is largely driven by an increase in carbon sequestration in on-farm vegetation, and less emissions from land use change. Emissions associated with enteric fermentation and manure management only increased by 3.5% despite the national herd increasing 4.5%.

Data Explained

10.3. Source: Integrity Ag & Environment – E.SUB.0010

This data came from the 2023 Life Cycle Analysis, revealing a 2.2% decline from the five years to 2015. The reduction is primarily associated with decreased enteric methane emissions. Emission intensity results for the historic trend period (1985-2015) were re-analysed, resulting in slightly higher reported impacts than previously reported because of an update in the GWP100 factors applied. Some other changes, such as the revision in feedlot enteric methane prediction, moderated this increase.

10.4. Source: AMPC – Environmental Performance Report 2022

Like all manufacturing facilities, meat processing plants use energy to operate, primarily from electricity, natural gas, coal, and diesel.

This indicator tracks performance in reducing the intensity of GHG emissions associated with processing. Improvements in GHG emissions intensity also contribute to reducing the carbon footprint of red meat products, although the contribution of red meat processing is small in relation to the full product life cycle.

10.5. Source: AMPC - Environmental Performance Report 2022

Methane and other gases can be captured during wastewater treatment at processing facilities to create biogas that is then used in the facility.

The increasing level of energy demand met by biogas from onsite anaerobic wastewater treatment is consistent with the gradually increasing uptake of these technologies. This is expected to further increase as several processors indicated they are either planning or in the process of installing covered anaerobic lagoons.

10.6. Source: CSIRO - B.CCH.2124

The cattle industry can sequester carbon in on-farm vegetation to reduce net CO₂ emissions and draw atmospheric carbon. This amount is the highest recorded, most likely due to the increase in vegetative growth from the high levels of rainfall in 2020 and 2021, as well as record low removal rates of primary vegetation and record levels of forest cover across northern Australia.

10.7. Source: N/A

GWP* is a novel metric for measuring GHG emissions. Initial work has begun on measuring the red meat and livestock industry emissions, and future iterations will disaggregate beef emissions for reporting.

10.8. Source: MLA Project E.SSF.0001

This data comes from a survey commissioned by MLA, where 50% of the respondents stated that they use renewable energy they generate themselves, 14% use renewable energy from an energy retailer, and 42% didn't generate or buy any renewable energy.

Snapshot of Activities

- » Early research suggests hormonal change in pregnancy has a significant impact on basal methane production, with first trimester pregnant cattle producing 44% less methane than their non-pregnant counterparts. While these findings are preliminary, this could represent a 12% over-estimation in how Australia estimates national emissions from livestock.
- » Microbiome programming of young animals remains an area of interest for long-term, low-cost methane mitigation, with exposure during milk feeding likely to be essential.
- » 1011 steers have been phenotyped to determine heritability of low methane traits, and to develop a combined "sustainability index" for highly productive animals.
- » MLA launched Carbon EDGE, a two-day training program for the red meat industry, providing participants with an understanding of the opportunities for emissions reduction and carbon storage activities in a livestock grazing business. Participants use their own information to develop an action plan for their business as they learn about the practices and technologies that could reduce their carbon footprint and improve sustainability and productivity.
- » Long-term use of *Desmanthus* pastures has the potential to deliver a net zero position to northern beef properties due to reduced whole-of-life animal emissions, increased stocking density, and soil carbon sequestration (increases by 0.3+ tonnes C per ha per year).
- » Shelterbelts were shown to deliver greater return on carbon sequestration through the Trees on Farm project. Modelled average sequestration rates over 25 years in environmental plantings were about 50% more in belts less than 40 m wide than in block plantings.
- » JBS Australia is constructing a bioenergy system at its Scone beef processing plant in the NSW Upper Hunter that is expected to eliminate the equivalent of 28,000t of CO₂ emissions each year.
- » AMPC released its Emissions Reduction Handbook as a valuable resource offering insights, guidelines, and practical information for processors to navigate the complexities of the Emissions Reduction Fund and implement successful emission reduction projects.



Water



Water use by source and consumption, particularly in areas of water scarcity and for feed production. This also includes water efficiency and water quality.

INDICATOR		DATA	TREND
11.1	Water use per kilogram of liveweight for raising cattle	400 L (2020)	●
11.2	Water use per tonne HSCW when processing beef	8.3 kL (2022)	●

Data Explained

11.1. Source: Integrity Ag & Environment – E.SUB.0010

This data came from the 2023 Life Cycle Analysis, showing a decrease of 18% in the five years to 2015. This is a calculation of the blue water footprint and includes cropping and pasture irrigation, livestock drinking water, and associated supply losses. This is a 73% decrease in consumption than in the five years to 1985.

11.2. Source: AMPC – Environmental Performance Report 2022

The 2022 water use intensity of 8.3 kL/t HSCW is a 9.2% increase from the 2020 figure of 7.6 kL/t HSCW. This number has increased due to the low throughput of processing cattle, leading to reduced efficiency.

Town water was the most important source of water intake (70%), followed by local groundwater (bore water) at 24%, and direct withdrawal from surface water (6%). Recycled water met 12% of water demand.

Snapshot of Activities

» In 2022, feedlots recorded 99.9% compliance with NFAS Environment requirements, up from 99.5% in 2021, ensuring our land and waterways are cared for.

» AMPC has delivered water recycling pilots to three processing plants, identifying the most efficient and economic water treatment. These have helped establish and progress a sustainable pathway to advanced water recycling in the meat processing sector.



Waste



Solid and liquid waste streams from across the value chain. This includes food waste and packaging.

INDICATOR		DATA	TREND
12.1	Solid waste to landfill per tonne HSCW when processing beef	12.7kg (2022)	●

Data Explained

12.1. Source: AMPC – Environmental Performance Report 2022

This indicator tracks performance in reducing solid waste production and landfill burden. By reducing waste sent to landfill, red meat processors can limit demand for new materials, reduce the environmental impacts associated with solid waste disposal, and contribute to the circular economy. Most waste generated by red meat processors is organic, comprised mainly of paunch solids, manure and yard wastes as well as sludge and pond crusts from

wastewater treatment plants. Organic waste is almost entirely processed into other beneficial products, such as compost. Scrap metals and waste oil are also typically recycled.

The 2022 data is higher because:

- » ongoing impacts of COVID-19 have seen a big increase in non-recyclable products like face masks, gloves and wipes going to landfill; and
- » the low throughput of processing animals led to reduced efficiencies.

Snapshot of Activities

- » MLA has partnered with Big Bag Recovery, the Australian Government-accredited Product Stewardship Scheme to explore an on-farm collection scheme for the recycling of woven polypropylene and low-density polyethylene bags over 15kg (sacks and bulk bags).
- » MLA is a funding partner in a collaboration with Dairy Australia (DA), Australian Dairy Products Federation (ADPF), AMPC, Australian Pork Limited (APL), AgriFutures Australia, and the Australian Alliance for Energy Productivity (A2EP) to assess commercial opportunities to produce bioenergy from organic waste streams produced by animal industries in Victoria.
- » MLA has conducted its establishment stage of a Meat Packaging Product Stewardship with a Round Table Discussion on sustainable packaging with our key stakeholders.
- » AMPC is conducting two projects that will accelerate both the potential for biomethane recovery and the circularity of biofertilisers, all from processor and agricultural waste streams.
- » ALFA is working with government stakeholders to conduct composting trials that may open further opportunities for value-adding to feedlot waste products.
- » The Australian Farm Waste Portal was launched, bringing together resources, initiatives, news and events relating to waste and resource recovery in Australian agriculture, fisheries and forestry, to improve farm waste management.



- » An AMPC project defined the compliance framework and support programs for industry reporting on used packaging material. Diverting Plastic from Landfill developed strategies to reduce on-site single-use plastic waste for landfill disposal and to meet circular economy principles.
- » Some lot feeders have invested in innovative technologies to produce an organic, carbon-based fertiliser that is the first of its kind in Australia. With manure an abundant resource generated at feedlots, it can be repurposed to produce a sustainable soil-conditioning solution that improves soil constraints and unlocks nitrogen utilisation.



Economic Resilience

Australian Beef Industry Goal

The value of Australian beef industry products and services doubles from 2020 levels by 2030 resulting in a profitable and resilient industry.

Progress

MLA has undertaken multiple key activities regarding economic resilience in 2023 and 2024 with the goal of informing the agricultural industry through data that allows better decision making. Key to this was launching the Online Young Cattle Indicator (OYCI) in response to the growing online marketplace. In doing so, MLA provided a useable interface for producers and stakeholders to track online sales transactions. This initiative was about increasing market transparency.

MLA also reviewed its cattle indicators to improve their specifications and widen the scope for weight, fat, and muscle scores. In the process MLA introduced a new dairy cow and restocker yearling heifer indicator. The aim of the review was to ensure there is adequate throughput to ensure accurate and reliable indicators that reflect the market trends and demands of industry.

The State of the Industry report was released in October 2023. It provides an analysis of broad market conditions and the economic contribution of the red meat industry, while informing the wider agricultural community about the overall trends occurring in the industry.

Australia's network of free trade agreements (FTA) continues to support beef exports to a wide variety of markets. For example, liberalised access (zero tariffs) or additional tariff cuts effective in 2024 under the Australia-Korea FTA, the Australia-China FTA and the Comprehensive and Progressive Agreement for Trans-Pacific Partnership are delivering commercially significant export diversification prospects.

Conversely, as a result of no improvement in offers from the European Union (EU) on beef access, Federal Trade Minister Don Farrell stated that he was unable to conclude the Australia-EU Free Trade Agreement negotiations in October 2023, in line with industry's position of securing "the right deal, not just any deal". Minister Farrell indicated the EU offer wasn't sufficient, and that significantly improved access is sought.





Climate Change Resilience



Responding to a changing climate (including extreme events) through adaptation initiatives.

INDICATOR		DATA	TREND
13.1	Climate-adjusted average annual growth rate in Total Factor Productivity - compared to the base year of 100 (1988/89)	106 (2021-22)	●

Data Explained

13.1. Source: ABARES

ABARES estimates Total Factor Productivity (TFP) of Australian farms to measure the efficiency of the industry over time. This is very important data (see Productivity), but annual TFP numbers are heavily impacted by seasonal variability. Looking forward, the predicted impacts of climate change – including lower rainfall in southern Australia, and more severe droughts and floods – will obscure underlying trends in farm performance. Climate-adjusted productivity

aims to account for these climate change effects. It models the effect of climate conditions (such as rainfall and temperature) on TFP, and then calculates climate-adjusted productivity with the effects of climate removed. Increases in climate-adjusted productivity show the industry is increasing productivity despite the impacts of climate, that is, it is adapting and showing resilience to climate change.

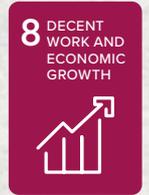
A climate-adjusted TFP of 106 indicates a 6% increase in production for the 2021-22 FY when compared to 1988-89.

Snapshot of Activities

- » The Federal government launched the Drought Resilience Commercialisation Initiative, a two-year pilot to accelerate commercialisation of novel services and technologies for rural industries drought resilience.
- » Western Sydney University is progressing its study of climatic extremes (La Nina and El Nino) and their impact on common and novel feedbase species to inform future pasture planning.
- » MLA has partnered with multiple technology research bodies to develop Foragecaster, an initiative aimed to create a grazing planner that leverages predictive data to mitigate risks associated with changing climate conditions.
- » The Northern Australia Climate Program has developed a new climate-focused training course under Profitable Grazing Systems (PGS). This course aims to assist producers to understand climate and forecasting fundamentals, navigate forecast products and historical climate data, incorporate seasonal forecasts in herd and pasture management and understand future trends, opportunities and challenges.
- » The Rangelands Living Skin project delivered two Carbon Forums in western NSW, attracting 78 attendees who manage a total of more than 1.4million hectares.



Productivity



Farm and processor output value, cost of production, nutrient density, and resource efficiency (such as consumption of natural resources, energy, water, waste and land use).

INDICATOR		DATA	TREND
14.1	Total Factor Productivity - compared to the base year of 100 (1977/78)	129 (2021-22)	●
14.2	Cost of beef produced on Australian farms (HSCW)	631 c/kg AUD (2022)	●

Data Explained

14.1. Source: ABARES

Updated data for 2023 is yet to be released by ABARES. Productivity measures how much output is produced for a given set of inputs. In the context of beef cattle, 'output' is the value of all the final consumer products produced from a beef carcass – including meat and offal, hides and leather, rendered products like tallow and gelatin, right through to sophisticated medicines and pharmaceuticals. Inputs include everything used to produce beef cattle – land, capital, labour, feed, supplements, veterinary drugs and chemicals, and includes research into better genetics and reproductive material. It captures the whole supply chain, also include things like transport services, as livestock need to be moved between properties to realise their final value.

Total factor productivity (TFP) growth means the whole supply chain is producing more valuable carcasses for a given set of inputs, or is producing the same value carcasses, using less inputs. This enables the whole supply chain to benefit - including consumers. Finding buyers that are willing to pay higher prices for particular

products is key to improving productivity.

Productivity growth is generally measured over the long-term as these measures can produce some counterintuitive results in the short-term. In times of severe drought, herds being liquidated can result in TFP growth, and likewise, during a herd rebuilding phase with the return of abundant pastures, TFP growth can fall. Using TFP as a long-term measure over a five-year rolling period will balance out these short-term fluctuations.

14.2. Source: ABARES

Updated data for 2023 is yet to be released by ABARES. Containing the cost of producing beef relative to our key competitors is an important factor in remaining internationally competitive and economically resilient. Australia is never going to be the lowest cost producer of beef, but any rise in the long-term real cost of production needs to be associated with increased consumer prices and premiums for Australian product, or long-term economic sustainability could be jeopardised.

Snapshot of Activities

» The Calf Alive project in collaboration with UQ and CQU is working with producers to test interventions and measure the impact of environment and nutrition on a herd's reproductive performance and calf survival. In one trial, pregnant cows were fed a high-energy, high-protein meal, four weeks pre-calving and two weeks post-calving. Early measures of cattle involved in the project found they were approximately 30kg heavier from supplement feeding, and the conditions of their calves or weaners was around 10kg heavier than calves not in the trial.

» The Paddock Power project with NT DITT recently concluded, producing tools to help producers assess and make evidence-based decisions for on-farm infrastructure development that will sustainably increase the productivity of north Australian enterprises.



Profitability



Profitability along the beef value chain is defined by the industry rate of return and its relationship to overall operator livelihood.

INDICATOR		DATA	TREND
15.1	Farm business profit at full equity (expressed as rate of return) <ul style="list-style-type: none"> » Including and excluding capital appreciation » All and top 25% 	<p>ALL PRODUCERS</p> <p>Including / Excluding 15% / 3%</p> <p>TOP 25%</p> <p>Including / Excluding 19.3% / 5.2%</p> <p>(Five year rolling average 2017-2022)</p>	●

Data Explained

15.1. Source: ABARES

Updated data for 2023 is yet to be released by ABARES. For economic sustainability, the industry needs to generate a positive rate of return over the long term. This rate of return represents the ability of the business to generate a return on all capital used by the business, including that which is borrowed or leased. This is measured by weighted average

farm business profit at full equity divided by opening capital. The inclusion of net capital appreciation (other than that caused by changes in land values) is important, as cattle farms can be foregoing profit today by investing in herd build up. To overcome the impact of normal year-to-year volatility, this indicator is calculated as a five-year rolling average.

Snapshot of Activities

- » Cattle prices have substantially increased compared to 2023 with all indicators lifting by 9-17% over Dec 2023 to Jan 2024.
- » The EYCI is the strongest it has been since May 2023 with prices at about 597c/kg cwt.
- » In 2023, almost seven million head of cattle were processed, a 12% increase on 2022.
- » The MSA program delivered another record estimated farmgate return of \$259M to MSA-registered producers, demonstrating the continued growth in value that is passed down through the supply chain as well as the willingness of consumers to pay for consistent quality.
- » Research in beef collagen extraction from hides has demonstrated that hides with no value (tick affected/scratched/damaged) which previously cost processors to dump, now have a value of up to \$8.80 per hide if collected and converted to beef collagen.



Market Access

Market access and barriers to trade, including both tariff and non-tariff trade barriers.

INDICATOR		DATA	TREND
16.1	Total reduction (from 2020) of non-tariff trade barriers	\$474m (2022-23)	●
16.2	Percentage value share of Australian beef exports covered by one or more preferential trade agreements	91% (2022-23)	●

Data Explained

16.1. Source: Red Meat Market Access Indicators - MLA Internal Calculations

Non-tariff trade barriers (NTBs) such as the use of import restrictions, labelling, making export clearance more difficult or costly, or unnecessary sanitary rules can impose significant delays and additional costs on Australian beef and live cattle exports. Alleviation of NTBs is therefore critical in improving international competitiveness. Recent confirmation of the extension to and harmonisation of shelf-life for chilled and frozen beef in a number of Middle East destinations is an example of the benefits of removing an NTB impact. This indicator is now aligned to the Red Meat 2030 success indicator of reducing NTBs by \$1 billion by 2030.

16.2. Source: Red Meat Market Access Indicators - MLA Internal Calculations

Preferential (or free) trade agreements provide access to a market beyond what has been granted multilaterally via the World Trade Organisation. FTAs have significantly reduced the tariff and quota barriers Australia faces in export markets. The percentage of preferential coverage fluctuates according to export destination volume/value in any particular year. New beef trade flows under the A-UK FTA are now incorporated into the calculations, however with minimal beef trade flows to date, the percentage has not been significantly impacted.

Snapshot of Activities

- » A significant boost to beef market access in the previously restricted high-value UK market has seen industry increase its investment in business development programs in order to explore the new opportunities from improved trading conditions.
- » Industry continues to pursue enhanced beef access to the EU via targeted advocacy, despite the stalling of Australia-EU FTA negotiations.
- » While lead negotiators have been engaged by MLA on the Australia-India Comprehensive Economic Cooperation agreement, India has yet to table a market access offer on red meat products.
- » FTA negotiations are expected to commence in early 2024 with the United Arab Emirates. Industry submissions seeking improved beef access have been lodged.
- » Three export establishments regained access to China in late 2023 after COVID suspensions. It is hoped this is a positive signal for the re-listing of the remaining establishments that were also suspended from supplying beef to China.
- » ALFA in partnership with AUS-MEAT provided input and attended international audits by trading partners to ensure clear and open communication concerning NFAS and other aspects of grain-fed beef production.
- » Recent changes in market access in the Middle East has enabled the shelf life on chilled beef products to increase to 120 days, resulting in an increase in the chilled trade for premium grain-fed beef of 25% or around \$60 million.



People & Community

Australian Beef Industry Goal

The Australian beef industry is trusted, attractive to a diverse workforce, a source of pride and belonging, and makes a positive contribution to the food security of Australian and international communities.

Progress

The Australian beef industry plays a pivotal role in enhancing community resilience through various avenues, encompassing economic stability, social sustainability, and cultural preservation. With its extensive reach across rural and regional areas, the beef industry acts as a cornerstone, fostering resilience amidst challenges and uncertainties.

Economically, the Australian beef industry serves as a significant contributor to the nation's prosperity and resilience. It generates substantial revenue, provides employment opportunities, and supports businesses along its supply chain. From producers and processors to retailers and exporters, the industry sustains livelihoods and economic activity, particularly in regional areas where opportunities may be limited. By diversifying income sources and bolstering local economies, the beef sector helps communities withstand economic fluctuations and external shocks.

Moreover, the industry's commitment to sustainability ensures the preservation of natural resources and ecosystems, thereby safeguarding communities against environmental degradation and climate-related risks. Through sustainable farming practices, such as rotational grazing, land regeneration, and water management initiatives, beef producers mitigate the impacts of climate change, conserve biodiversity, and maintain ecosystem services vital for community well-being. By promoting sustainable land use, the industry contributes to the long-term resilience of rural landscapes and the communities reliant upon them.

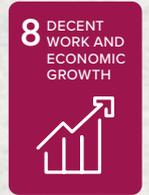
Socially, the Australian beef industry fosters community cohesion and vitality by nurturing social networks, supporting local initiatives, and preserving cultural heritage. It serves as a focal point for social interaction, bringing together individuals from diverse backgrounds through events like agricultural shows, farmers' markets, and industry forums. These gatherings not only facilitate knowledge exchange and skill-sharing but also strengthen social bonds and foster a sense of belonging within rural communities.

The beef industry plays a crucial role in enhancing food security and nutrition, particularly in remote and disadvantaged communities and some international markets. By producing high-quality, nutrient-rich protein sources, Australian beef sustains local food systems, reduces reliance on imported goods, and ensures access to wholesome nutrition for vulnerable populations. Through initiatives like food donation programs and educational outreach, the industry addresses food insecurity and promotes healthier lifestyles, thereby bolstering community resilience against food-related challenges.

In times of crisis, such as natural disasters or economic downturns, the Australian beef industry demonstrates remarkable resilience by adapting to changing circumstances and supporting affected communities. Whether through emergency relief efforts, financial assistance programs, or volunteer initiatives, industry stakeholders rally together to provide aid and support to those in need. By leveraging its resources, expertise, and networks, the beef industry helps communities recover and rebuild in the aftermath of adversity, fostering resilience and solidarity in the face of challenges.



Food Quality and Safety



All aspects of food safety, quality, product integrity, and traceability consistent with standards.

INDICATOR		DATA	TREND
17.1	National Average MSA Index	57.52 (2022-23)	●
17.2	Overall compliance with the National Residue Survey and Australian and International Standards for Cattle	99.98% (2022-23)	●

Data Explained

17.1. Source: MSA Annual Outcomes Report

Meat Standards Australia (MSA) was developed by the Australian red meat industry to improve the eating quality consistency of beef. To date, the system is based on almost 1.3 million untrained consumer taste tests by more than 200,000 consumers from 13 countries and considers factors that affect eating quality from the paddock to plate. The MSA index is a single number (between 30 and 80) and standard national measure of the predicted eating quality and potential merit of a beef carcass. It is a consistent benchmark which can be used across all processors and geographic regions, and over time. It reflects the impact on eating quality of management, environmental, and genetic differences between cattle at the point of slaughter.

Compliance rates vary throughout the production regions of Australia according to seasonal conditions. To be compliant for MSA grading, carcasses must have a minimum of 3mm

rib fat, adequate fat coverage, a maximum pH of 5.70 and other requirements. In 2022–23, overall compliance with MSA minimum requirements was 95.1% nationally, slightly down from the record-breaking level of compliance of 95.5% achieved in both 2020–21 and 2021–22.

17.2. Source: National Residue Survey

The National Residue Survey (NRS) has been testing tissue samples from Australian cattle for a range of pesticides, veterinary medicines, and environmental contaminants since the early 1960s. The program ensures beef exports satisfy Australian certification and importing country requirements, supports industry quality assurance initiatives, and enables domestic meat processing facilities to satisfy state and territory government regulatory authority licensing requirements.

Snapshot of Activities

- » The industry supports cattle movement and status at abattoirs being recorded and managed through device-based systems rather than PIC status, for the purposes of biosecurity, food safety, product integrity, market access and other industry-related purposes.
- » MSA continues to undertake research that aims to make all cattle eligible for MSA including an expanded saleyard pathway with re-feeding options and an expanded transport pathway to include long-distance rail transport.
- » Research on the eating quality of dairy beef found dairy steers have comparable eating quality to beef breeds when finished on pasture and/or in a feedlot.



Nutrition

2 ZERO HUNGER



Nutrition and food security including access to safe, sufficient and nutritious food.

Nutrition Information*	per 150g serve*
Good Source[^]	
Protein	34.3g
Iron	3.1mg
Zinc	6.7mg
Vitamin B12	1.4µg
Source[^]	
Omega-3 fatty acids	48.2mg
Riboflavin (B2)	0.29mg
Niacin (B3)	7.5mg
Pantothenic acid (B5)	0.54mg
Vitamin B6	0.21mg
Magnesium	38mg
Phosphorus	328mg
Selenium	16µg

* Average nutrition information per 150g serve raw weight of four major beef cuts.

[^] Foods that are a 'good source of protein' have more than 10g per serve; 'good sources' of essential nutrients have 25% or more and 'sources', 10% or more of the recommended daily intake (RDI) as defined for labeling purposes in the Australian Food Standards (1.2.7).

Data Explained

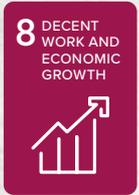
Lean beef is a nutrition powerhouse. A 150g serving (raw weight) of Australian beef contains 12 essential nutrients recommended for good health. It is an excellent source of bioavailable iron and zinc, with red meat having more iron and

zinc than poultry and fish. Predominantly grass fed, Australian beef is a source of Omega-3. Australian beef with low levels of marbling and trimmed of fat has less than 3% fat, around 1% saturated fat and is naturally low in sodium.

Snapshot of Activities

- » Communications published on the MLA Healthy Meals website provide guidance on red meat, healthy eating and reducing food waste for key life stages.
- » *Make every bite count Tips* are a set of practical resources that promote to health professionals guidance on red meat, healthy eating and reducing food waste.
- » Industry has provided evidence to the Australian Dietary Guidelines Review, the first review since 2013.





Work Health & Safety

Healthy and safe conditions for people in the industry (including mental health, occupational illness, and exposure to chemicals).

INDICATOR		DATA	TREND
18.1	Notifiable fatalities (five-year totals)	Farms – 35 Feedlots – 1 Processing – 2 (2018-22)	●
18.2	Lost time injury frequency rate (number of claims per million hours worked)	Farms – 10.9 Processing – 19.7 (2021-22)	●
18.3	Global Life Satisfaction Index of Australian beef graziers	74.3 (2022)	●

Data Explained

18.1. Source: Safe Work Australia

The Work-related Traumatic Injury Fatality Data set is sourced from information from the media, workers' compensation data, fatality notifications from Australia's various WHS authorities and information in the National Coronial Information System. Five-year totals are used to avoid disclosing confidential and potentially identifiable information.

18.2. Source: Safe Work Australia

Lost Time Injury Frequency Rate (LTIFR) refers to the number of lost time injuries – injuries that occurred in the workplace that resulted in an employee's inability to work the next full workday – which occurred in a given period. The LTIFR is

calculated across all livestock farms and meat processing facilities due to data levels. The calculator uses NDS data to determine the number of lost time injuries in each industry, and data from the Australian Bureau of Statistics Labour Force Survey to determine the number of hours worked.

18.3. Source: Regional Wellbeing Survey

The Global Life Satisfaction score is calculated based on respondents rating their satisfaction with their 'life as a whole' on a scale of 'completely dissatisfied' (0) to 'completely satisfied' (10). Scores are multiplied by 10 to give an index of 0 to 100. The score of 74.3 for beef graziers compares to the overall Global Life Satisfaction for Australia of 69.4. This is the first time beef graziers have been disaggregated from all livestock graziers.

Snapshot of Activities

- » MLA has partnered with Farmers Health Collaborative to deliver Project: 100 Healthy Farmers which aims to identify agricultural influencers who can make a real difference by being an inspiration, setting precedents and leading community change in strengthening our rural industries' greatest asset – its people.
- » The NTCA Safer Stations aims to inspire young children to be 'Station Safety Champions', encouraging both a cultural and behavioural shift towards farm safety practices within the station communities. The initiative developed fun and hands-on activities to identify, assess and manage potential safety hazards and risks on station.
- » ALFA supports feedlots having effective work health and safety (WHS) plans in place, including practical resources such as comprehensive and easy-to-follow checklists, templates and guidelines to help lot feeders plan and implement onsite health and safety initiatives.
- » In 2021, the Australian Livestock Exporters' Council, in conjunction with Nutrien Ag Solutions, established affordable travel insurance cover for stockpersons and veterinarians on live export voyages.



Labour Practices

8 DECENT
WORK AND
ECONOMIC
GROWTH



Labour practices and fair work for all employees including freedom of association, safeguarding of seasonal and casual workers, and freedom from modern slavery.

INDICATOR		DATA	TREND
19.1	Fair Work Ombudsman Compliance Notices Issued (ANZSIC class Beef Cattle Farming (specialised))	Farms – 2 Feedlots – 0 Processing – 1 (2022-23)	●

Data Explained

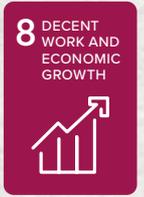
19.1. Source: Fair Work Ombudsman

The Fair Work Ombudsman (FWO) is responsible for promoting compliance with Australian workplace laws. It educates people about their rights and responsibilities at work and can resolve workplace issues. Most of the time, breaches of the Fair Work Act 2009 invoke a civil

penalty or fine. When an employer doesn't cooperate with a Fair Work Inspector to fix a breach, the FWO can issue a compliance notice instead of starting legal proceedings. Three compliance notices were issued out of approximately 52,000 agricultural businesses involved with cattle in Australia in 2022/23.

Snapshot of Activities

- » AMPC has developed a Voluntary Code of Conduct for the Employment of Migrant Workers, which promotes leading best practice and goes above and beyond what legislation requires. It covers aspects from responsible procurement and sourcing practices to support for integration into host communities. With processors generally being large employers in regional communities, the Code is designed to encourage a thriving and diverse society. The code is administered by AMIC, and AUS-MEAT is the appointed certifying authority which will conduct the audit program and issue certification where the requirements outlined in the code have been met.
- » The feedlot and processing industries uses visa pathways such as the Pacific Australia Labour Mobility (PALM) scheme to provide employment opportunities, ensuring labour practices and fair work for all employees under the scheme.



Community Contribution

Contribution the industry makes nationally and regionally in Australian communities, including Indigenous engagement (e.g. economic value, direct employment).

INDICATOR		DATA	TREND
20.1	Total people employed directly or indirectly in the beef industry	398,720 (2021-22)	N/A
20.2	Beef farming, feedlot, and processing contribution to Gross Domestic Product	\$20.06b (2021-22)	●
20.3	Getting involved in the community index of Australian beef graziers	3.5 (2022)	●

Data Explained

20.1. Source: MLA State of the Industry Report 2023

A total of 153,247 people were directly employed in the beef industry, in addition to a further 245,473 people in businesses servicing the red meat and livestock industry. The majority (85%) of meat and livestock industry employees live in rural and regional areas, assisting with decentralisation and not contributing to infrastructure pressure in capital cities. This is the first time beef has been disaggregated from the data, making trending not possible.

20.2. Source: MLA State of the Industry Report 2023

Industry value-add is the overall value of goods and services produced by businesses in an industry and is also known

as contribution to gross domestic product (GDP). There have been adjustments to previous GDP figures due to strong growth in profit margins. This was not fully captured in their previous report due to lags in survey data.

20.3. Source: Regional Wellbeing Survey

The extent of a person's involvement in local community activities is a mean score from (1) "never or almost never" to (7) "all the time" taking part in community events. The score of 3.5 for beef graziers compares to the overall Australian score of 3.3, and represents a year on year increase as the regions came out of COVID-19 restrictions. This is the first time beef graziers have been disaggregated from all livestock graziers.

Snapshot of Activities

- » Beefbank Ltd and Foodbank Australia have announced a national partnership to meet the growing demand for protein from those struggling with cost-of-living pressures. Beefbank has been supplying Foodbank Queensland with a regular supply of beef for 15 years and will now expand the concept to donations of cattle and processing.
- » The ALFA Community Heroes Award recognises and rewards those feedlots that are actively nourishing and supporting their local communities and environment.



Diversity



Protection of human rights across the workforce including non-discrimination, inclusivity, gender diversity, cultural and religious diversity, and Indigenous people.

INDICATOR		DATA						TREND
21.1	Percentage of women and men in the workforce	32.1%	67.9%	33.7%	66.0%	29.2%	70.8%	
		Beef farms		Beef feedlots		Processors		
		(2021)						
21.2	Age breakdown of the workforce	9.5%	16.4%	16.1%	17.4%	19.2%	21.4%	N/A
		15-24	25-34	35-44	45-54	55-64	65+	
		(2021)						
21.3	Percentage of Indigenous employment in the workforce	2.1%						
		(2021)						

Data Explained

21.1-21.3. Source: ABS 2021 Census

Data from the Australian Bureau of Statistics 2021 Census has been used as the data source for the diversity priority,

utilising the four-digit level of Industry Employment (INDP) categories. The SSG continues to seek robust data for the interim years between the ABS census.

Snapshot of Activities

- » MLA is one of nine RDCs supporting an AgriFutures project to improve the collection of workforce data in Australia’s agricultural industries, enabling better-informed workforce strategic planning, policy development, research, and progress monitoring for the agriculture sectors.
- » An independent global report commissioned by Meat Business Women has shown that the meat industry has made progress in shifting the dial of women’s representation in senior leadership roles since the initial ground-breaking report in 2020. As of 2023, women in CEO roles has increased to 8% (from 5% in 2020), and female representation at board-level director roles has increased to 23% (from 14%).
- » Northern Breeding Business Phase 2 has engaged eight indigenous businesses in evidence-based decision making and interventions. The NB2 Phase 2 Indigenous Group is interested in building capacity in education, employment and biosecurity. Animal Health Australia is participating in the creation of virtual biosecurity tools for beef cattle herds.
- » The Young Lot Feeder of the Year Award is designed to empower and nurture emerging leaders, encouraging them to be innovators with a vision for the Australian lot feeding industry and its possibilities.



Antimicrobial Stewardship

Maintaining the efficacy of antimicrobials through judicious use, to abate adverse effects in humans and animals.

INDICATOR		DATA	TREND
22.1	Percentage of feedlots covered by an antimicrobial stewardship plan	100% (2023)	●
22.2	Percentage of compliance with antibiotic Maximum Residue Limits	100% (2022-23)	●

Data Explained

22.1. Source: NFAS Audits

The antimicrobial stewardship guidelines for the Australian cattle feedlot industry are now included as a requirement of the NFAS, which has been in operation in the Australian feedlot industry for more than 28 years. The 100% data related only to beef feedlots accredited under the NFAS.

22.1. Source: National Residue Survey

Targeted animal product residue monitoring programs, such as those for antibiotics, are designed to meet management objectives or monitor potential chemical residues that could pose a risk for access to export or domestic markets. All animal product residue monitoring programs are designed, operated, and reviewed by the NRS. This data indicates the second consecutive year in which cattle samples have had 100% compliance with antibiotic MRLs.

Snapshot of Activities

- » MLA has funded a project to determine the cost and feasibility of an antimicrobial use reporting system for the beef industry. Further discussions by the beef supply chain will occur at the project's completion in mid-2024, to determine a path to implementation if supported and feasible.
- » Food Standards Australia New Zealand (FSANZ) has been funded by the Australian Government Department of Health to undertake a two-year project looking at antimicrobial-resistant bacteria in the Australian food supply. Sampling of retail beef, pork and chicken occurred nationally during 2022/2023 with results to be released in mid-2024.
- » MLA continues to invest producer levies in a range of projects in vaccine development to lower antimicrobial use including next generation autogenous vaccines for Bovine Respiratory Disease prevention (in partnership with Apiam Animal Health and the University of Adelaide).
- » NFAS ensures that AMS Plans are reviewed every six to 12 months, depending on the size of the feedlot, and are reviewed and signed off by a consulting veterinarian.



Capacity Building



Attraction of workers, training and development, and succession planning within the beef industry.

INDICATOR		DATA	TREND
23.1	Number of traineeships and apprenticeships enrolled and completed	(Commenced / Completed) Farms – 1488 / 894 Feedlots – 28 / 42 Processing – 2859 / 2013 (2023)	●
23.2	Percentage of industry workforce with a higher education qualification	22.4% (2021)	●
23.3	Number of participants undertaking MLA, LiveCorp, AMPC, or peak industry council training	17,161 (2023)	●

Data Explained

23.1. Source: National Centre for Vocational Education Research

There are limitations on the accuracy of the available data for this indicator. Where possible, codes for only beef cattle-related industries have been used. Farming includes agriculture and rural operations without specialisations (training course codes beginning with AHC). Meat processing includes all meat for human consumption but excludes poultry (training course codes beginning with AMP). It is not possible to deduce how many relate specifically to processing cattle only. This data is for October 2022 - September 2023.

23.2. Source: ABS 2021 Census

The ABS 2021 Census showed that 22.4% of employees have obtained a higher education qualification. This includes diploma and advanced diploma, bachelor's degree, graduate diploma and graduate certificate, and postgraduate degrees.

23.3. Source: Red Meat Industry Bodies

Training events and courses are functions of MLA, LiveCorp, AMPC, and the peak industry councils. This includes ALFA's animal welfare officer training, LiveCorp's in-market training in Indonesia, professional development courses, and MLA's suite of adoption programs including Profitable Grazing Systems, Producer Demonstration Sites, and EDGE Network courses.

Snapshot of Activities

- » The Livestock Consulting Internship Program allows employers to expand their business and increase the knowledge and skills of an intern through a formalised development program. Ten interns were supported in the program with over 400 producers engaged to accelerate commercialisation of research and development outputs.
- » The industry continues to invest in the Zanda McDonald Award, which offers young people in Australia and New Zealand a unique opportunity to learn from successful leaders and peers, network with the best in trans-Tasman agriculture, gain valuable experience through a tailored mentoring program, and grow both personally and professionally.
- » MLA has relaunched a scholarship program to attract smart, early-stage career scientists within Australian universities to work on the industry's more complex problems. On completion of their studies, more than 70% of students supported by this scheme continue to work within the red meat and livestock industry.
- » Beef Australia is committed to developing future leaders across the Australian beef industry through its Graeme Acton Beef Connections Mentoring Program, providing a unique mentoring experience for future leaders that supports the link between leadership theory and practice.

Snapshot of Activities

- » ALFA provides lot feeders with a number professional development opportunities, including the Margin & People Management (MPM) program. The MPM program, now in its 13th year, provides participants with an in-depth comprehension of modern feedlot business management.
- » ALFA and MLA's capacity-building strategy focuses on online courses through ALFA's training platform, Feedlot TECH. The courses address essential skills across all feedlot departments. During 2022-23, a number of eLearning courses were delivered on topics including feedlot nutrition, feeding and milling operations as well as livestock handling.
- » Profitable Grazing Systems is one of MLA's long-term practice change programs offering coach-based training packages to producers to improve their overall farm performance. In 2023, PGS had 275 producers engaged in 30 groups across the country.
- » The Georgina Pastoral Future NTCA Program was established in 2014 with a vision to empower, inspire and support the young leaders coming through the Northern Territory Cattle Industry. The annual program provides participants with opportunities to network with industry leaders, stakeholders and representatives from both Territory and Federal Governments. In addition, it aims to increase the capacity of participants through industry tours, mentoring and professional development workshops.
- » In 2023, MLA's flagship awareness program in southern Australia - MeatUp - delivered four events to 337 producers, outlining the latest red meat research, development and adoption programs relating to livestock production.
- » Six BeefUp forums were delivered in 2023 – two each in NT, WA and Queensland. The events attracted over 200 northern beef producers and 100 advisors, representing around 26.4 million ha and 1.2 million head of cattle under management. Each event featured a regional program and provided producers with access to new R&D, tools and innovation.
- » The Australian Intercollegiate Meat Judging Association (ICMJ) Inc is a not-for-profit association aimed at exposing and encouraging students into careers in the meat industry. ICMJ hosts conferences in Rockhampton and Wagga Wagga annually to inspire and develop future professionals in the global red meat industry.



Governance

The ABSF is an initiative of RMAC. RMAC appoints the Sustainability Steering Group, which is an independent, grassroots body representative of the beef value chain tasked with progressing the ABSF on industry’s behalf.

RMAC is a federation of Australian red meat and livestock national employer associations and commodity representative organisations. RMAC members are the prescribed Peak Industry Councils under the Australian Meat and Livestock Industry Act 1997, including the:

- » Australian Livestock Exporters’ Council,
- » Australian Lot Feeders’ Association,
- » Australian Meat Industry Council,
- » Cattle Australia,
- » Sheep Producers Australia, and
- » Goat Industry Council of Australia.

RMAC’s core business is to:

- » Provide cross-sector advice to the Commonwealth Government
- » Provide a forum for the resolution of cross-sector issues
- » Act as trustee of the red meat industry fund, and
- » Review and assist the effective workings of the red meat industry Memorandum of Understanding and industry strategic plan, Red Meat 2030.



Sustainability Steering Group

The SSG members are appointed based on their individual skills, expertise and their ability to operate strategically using a whole-of-industry lens.

When determining the membership group, consideration is given to the geographic location to ensure that northern and southern cattle farming systems are adequately represented. Members are not appointed as representatives of any bodies, companies, or organisations. This ensures the SSG remains independent, objective, and non-partisan.

The SSG is appointed for a specified term per individual, ensuring knowledge rollover between members. The purpose, composition, role, and term of the group is reviewed by RMAC annually. MLA acts as Secretariat to assist the SSG. The SSG Chair is not an executive of either RMAC or MLA.

The responsibilities of the SSG include:

- » Data gathering, management, and reporting
- » Industry consultation
- » Goal promotion
- » Advice on research, development and adoption
- » Materiality reviews
- » Synthesising research
- » Developing priorities and indicators
- » Representing industry's sustainability journey



Mark Davie
Chair, SSG, Director
Keppel Brand
and Cattlemen's



Amy Brooks
Manager, Marketing,
Community Engagement and
Group Safety
Stockyard Beef



Carl Duncan
Chief Executive Officer
NRG One



Peter Gall
Director Livestock &
Ambassador
Hewitt Foods



Jessica Loughland
Livestock Supply Chain
Manager
HW Greenham & Sons



Dr Michael Maxwell
Partner
HFW



Kari Moffat
Sustainability Manager
AAM Investment Group



Jenny O'Sullivan
Owner/Manager
Malabar Farm
Director
Victorian Livestock Exchange



Jacob Betros
Secretariat, SSG Manager
Beef Sustainability, Meat &
Livestock Australia

Materiality

In 2021, a Materiality Assessment identified 24 topics to be adopted in the ABSF.

A materiality assessment is the process of identifying and prioritising a company’s or industry’s significant environmental, economic, or social impacts. These impacts can be positive or negative.

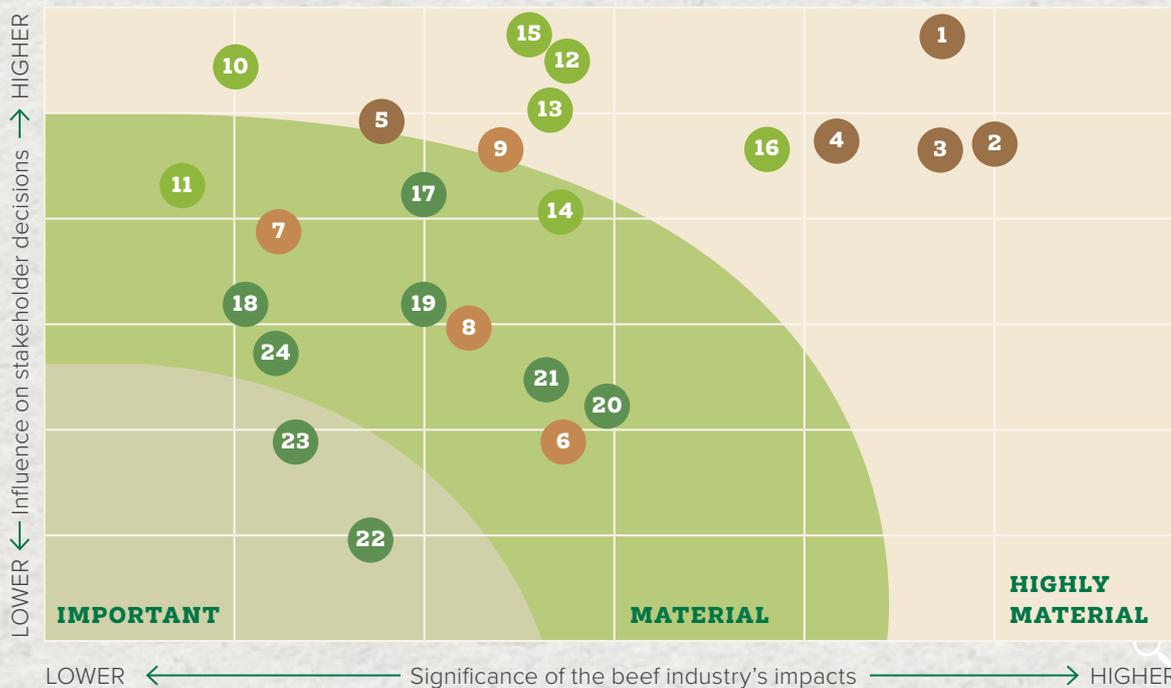
The identified list of significant or material issues is based on scientific literature, industry and social norms, the policy and regulatory architecture, and the views of stakeholders. The identified material issues guide company or industry action to monitor, address and report on its sustainability impacts. Materiality is a core principle of sustainability reporting standards such as the GRI Standards (2021).

Guided by best practice, the materiality assessment prioritised these topics as highly material, material, or important, according to two dimensions:

1. Significance of the industry’s economic, environmental, and social impacts.
2. Significance to, and influence on, stakeholder assessments and decisions.



Scan the QR code to view the Materiality Assessment Report 2021



Best Animal Care

1. Animal husbandry
2. Processing practices
3. Livestock transport
4. Livestock health and welfare
5. Biosecurity



Economic Resilience

6. Productivity
7. Profitability
8. Market access
9. Climate change resilience



Environmental Stewardship

10. Water
11. Waste
12. Soil health
13. Balance of tree and grass cover
14. Groundcover
15. Biodiversity
16. Greenhouse gas emissions and carbon capture



People and Community

17. Food safety and quality
18. Diversity
19. Work, health and safety
20. Community contribution
21. Nutrition
22. Capacity building
23. Labour practices
24. Antimicrobial stewardship

Glossary

AAWCS

Australian Livestock Processing Industry Animal Welfare Certification System. An independently audited certification program used by Australian livestock processors to demonstrate compliance with the industry best practice animal welfare standards.

ABARES

Australian Bureau of Agricultural and Resource Economics and Sciences.

ABS

Australian Bureau of Statistics.

ALEC

Australian Livestock Exporters Council. A member-based, peak industry body representing Australia's livestock export sector.

ALFA

Australian Lot Feeders' Association. The peak national body for the Australian cattle feedlot industry.

AMIC

Australian Meat Industry Council. The peak council that represents retailers, processors, exporters and smallgoods manufacturers in the post-farm-gate meat industry.

AMPC

Australian Meat Processing Corporation. The Rural Research and Development Corporation that supports the red meat processing industry throughout Australia.

Antimicrobial resistance

The ability of a microbe to resist the effects of medication that once could successfully destroy the microbe. Microbes include bacteria, viruses and other microscopic organisms.

AUSVETPLAN

The Australian Veterinary Emergency Plan otherwise known as AUSVETPLAN contains the nationally-agreed approach for the response to emergency animal disease incidents in Australia.

BSE

Bovine Spongiform Encephalopathy (BSE), or Mad Cow Disease. A brain disorder in adult cattle that may be spread to humans through diseased meat.

CA

Cattle Australia. The national peak body for the Australian grass-fed beef cattle industry.

Canopy cover

The fraction of ground area covered by the vertical projection of tree crown perimeters.

Carbon sequestration

A process of capturing and storing atmospheric carbon dioxide, which has the potential to mitigate climate change.

Carcase

The body of an animal after being dressed (removal of head, feet, hide and internal organs).

Castration

Removal of the testicles of a bull by either surgical or non-surgical methods.

CN30

Initiative and target relating to the red meat industry ambition of becoming carbon neutral by 2030.

Contagious Bovine Pleuropneumonia

A highly contagious infectious disease of cattle that attacks the lungs and thoracic membrane, with a high mortality rate.

CO₂e

Carbon dioxide equivalent, a standard unit for measuring greenhouse gas emissions.

COP28

United Nations Climate Change Conference of the Parties. The 28th conference was held in Dubai in 2023.

CSIRO

Commonwealth Scientific and Industrial Research Organisation. An Australian federal government agency responsible for scientific research.

DAFF

Department of Agriculture, Fisheries and Forestry.

Disbudding

The destruction or excision of horn-producing cells before they attached to the skull.

Dehorning

The removal of horns from cattle. It is a labour-intensive, skilled operation with important animal welfare implications, and is totally avoidable by breeding polled (hornless) cattle.

Desmanthus

A non-bloating tropical legume that provides high quality feed for cattle. It is native to northern America, Central and South America and the Caribbean and commonly used as a companion legume in tropical perennial grass pastures.

El Nino

El Niño is a climate pattern that describes the unusual warming of surface waters in the eastern equatorial Pacific Ocean. Trade winds and atmosphere are also impacted by El Niño.

ESCAS

Exporter Supply Chain Assurance System. An Australian Government regulatory program based on four principles: animal welfare, control through the supply chain, traceability through the supply chain and independent auditing.

EYCI

The Eastern Young Cattle Indicator (EYCI) is a seven-day rolling average of young cattle from 25 saleyards across Queensland, NSW and Victoria. It's expressed in cents per kilogram carcass (or dressed) weight (¢/kg cwt) and is rounded to the nearest ¼ cent.

Feedlotting

The process of feeding cattle on grain in a feedlot, where cattle are fed a high protein grain-based diet to reach exact market specifications, before being supplied to processors.

Foot-and-mouth disease

Foot-and-mouth disease (FMD) is a serious and highly contagious animal disease that affects all cloven-hoofed animals. FMD is a disease of animals, not humans and is a different disease than hand, foot, and mouth disease which is common in young children. FMD is not transmitted to humans by eating affected meat.

GDP

Gross Domestic Product. The total monetary or market value of all the finished goods and services produced within a country. Also known as Industry Value Add.

GHG

Greenhouse gas. The gases in the atmosphere which absorb wavelengths of radiation that a planet emits.

GRSB

Global Roundtable for Sustainable Beef. A global, multi-stakeholder initiative that advances sustainability of the global beef value chain through leadership, science and multi-stakeholder engagement and collaboration.

HSCW

Hot Standard Carcase Weight. Used to describe the weight of an animal, particularly when the animal is sold directly from a farm to an abattoir.

LCA

Life Cycle Assessment. A technique to assess environmental impacts associated with a product across a supply chain.

LPA

Livestock Production Assurance. The Australian livestock industry's on-farm assurance program covering food safety, animal welfare and biosecurity. It provides evidence of livestock history and on-farm practices when transferring livestock through the value chain.

LiveCorp

The service provider and research body for the Australian livestock export industry

Lumpy Skin Disease

Lumpy skin disease (LSD) is an acute to chronic, highly infectious, generalised skin disease of. The disease is caused by a poxvirus and is believed to be mechanically transmitted mostly by a range of arthropods, including biting insects and ticks.

Materiality

The principle of reporting against and addressing the industry's most material issues. These are issues with a direct or indirect impact on an organisation's ability to create, preserve or erode economic, environmental and social value for itself, its stakeholders and society at large.

Maximum Residue Limits

The maximum concentration of an agrochemical permitted legally in a foodstuff.

MLA

Meat & Livestock Australia. A producer owned industry service provider that provides marketing and research and development services to cattle, sheep and goat industries.

MSA

Meat Standards Australia. A grading system for meat that has met strict eating quality criteria.

NVD

National Vendor Declarations. A form that documents the movement of livestock when they are bought, sold or moved off a property. This form accompanies all such movements.

NFAS

National Feedlot Accreditation Scheme. An independently audited quality assurance scheme initiated by ALFA that includes quality assurance, welfare and other components.

NLIS

National Livestock Identification System. Australia's system for identifying and tracing cattle, sheep and goats.

NRM Region

Natural resource management region. Australia has 54 NRM regions, which are defined by catchments and bioregions. Many activities of organisations and ecosystem services within the NRM regions are vulnerable to impacts of climate change.

Paris Agreement

An international agreement under the United Nations Framework Convention on Climate Change, dealing with the mitigation of greenhouse gas emissions, adaptation to climate change, and climate change-related finance. The Paris Agreement commits members to the long-term goal of keeping the increase in global average temperatures to well below 2°C above pre-industrial levels, and to limit the increase to 1.5°C.

Polled cattle

Livestock, including cows and bulls, born without horns due to the poll gene for which they can be selectively bred.

Red Meat 2030

A 10-year strategic plan for Australia's red meat businesses, developed in consultation with industry and government.

Rinderpest

An infectious viral disease of cattle characterised by fever, dysentery and inflammation of the mucous membranes.

RMAC

Red Meat Advisory Council. RMAC is Australia's only policy leadership and advisory forum made up of producers, lot feeders, manufacturers, retailers and livestock exporters. RMAC represents Australian beef, goatmeat and sheep meat businesses and their interests to the community, industry and government.

RSPCA

Royal Society for the Prevention of Cruelty to Animals (RSPCA) is an independent, community-based charity providing animal care and protection services across the country.

Safe Work

Safe Work Australia - An Australian government statutory body established to develop national policy relating to work health and safety and workers' compensation.

SDG

Sustainable Development Goals. A set of 17 goals which are an urgent call for action by all countries - developed and developing - in a global partnership.

Spaying

The surgical procedure of removing the ovaries.

WOAH

World Organisation for Animal Health. An intergovernmental organisation coordinating, supporting and promoting animal disease control.

Woody vegetation

Plants that produce wood as their structural tissue and have woody stems, such as trees. For the Balance of Tree and Grass Cover, this includes Forests and Woodlands.

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