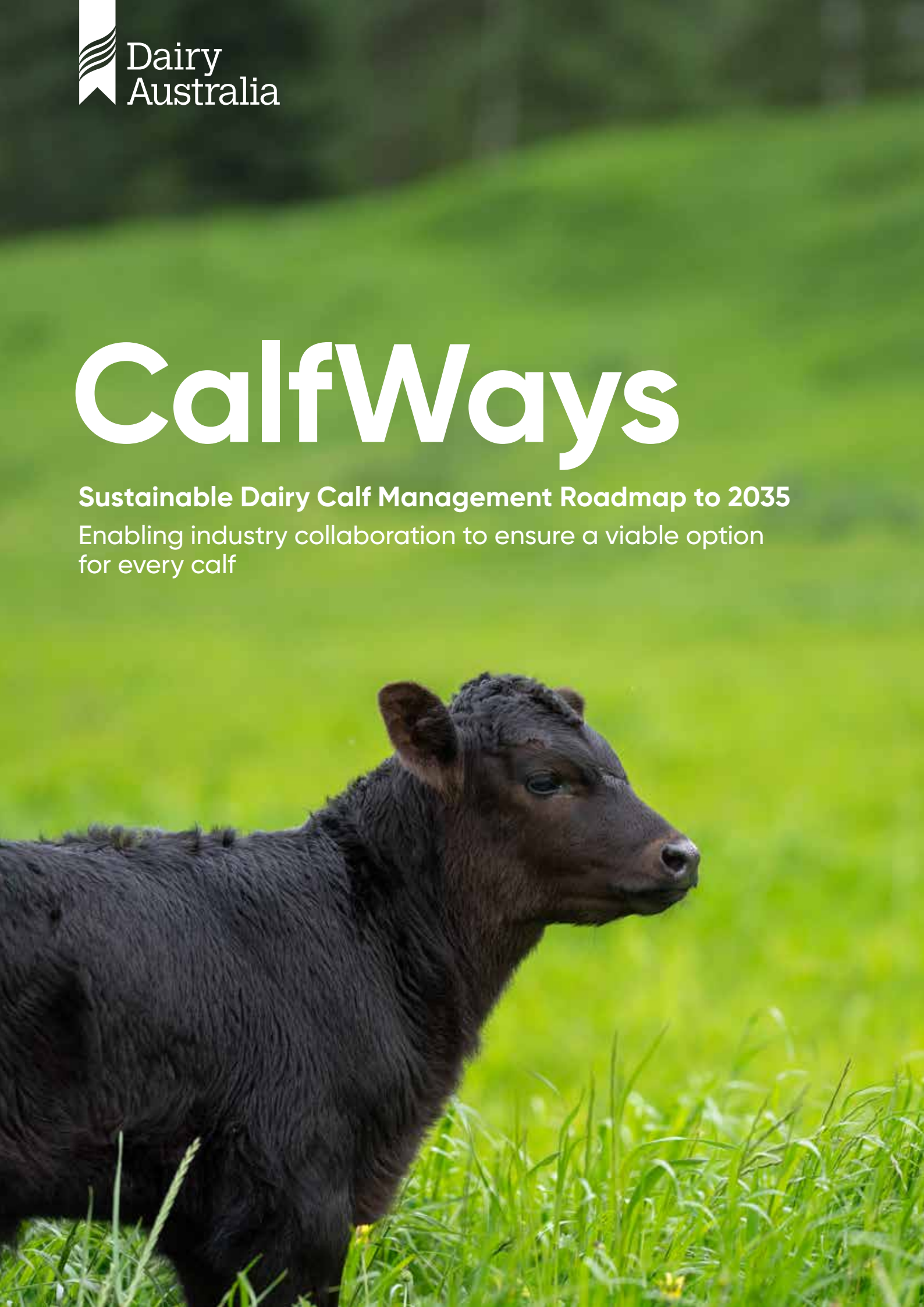
Dairy Australia

CalfWays

Sustainable Dairy Calf Management Roadmap to 2035

Enabling industry collaboration to ensure a viable option for every calf



Acknowledgement and support
CalfWays, the dairy industry's roadmap to more sustainable calf management has been developed by Dairy Australia with the assistance of Schuster Consulting Group.

Through the course of the development, more than 150 stakeholders from the dairy and beef industries were consulted on key challenges to improving surplus calf management and the opportunities surplus calves presented to both industries.

An advisory committee, comprised of dairy farmers, dairy processors and representatives from the red meat and livestock industry, assisted in the development of the roadmap.

Dairy Australia and Schuster Consulting Group gratefully acknowledge the contribution made by these stakeholders and their support in the development and implementation of CalfWays.

CalfWays – Sustainable Dairy Calf Management Roadmap
First Edition. February 2025

Foreword

Dairy Australia has an important role to deliver services to the dairy industry, including in areas like sustainability. We see a more sustainable industry as one which creates livelihoods for people in all parts of the supply chain, ensures high levels of animal welfare and has positive environmental outcomes. This is completely aligned with the commitments of the Australian Dairy Industry Council and its sustainability framework.

Over 1 million calves are born every year from dairy cows, and the industry is committed to high levels of welfare for the cow and the calf. The challenge and the opportunity is early identification of a pathway to create value from every calf born, and in doing so have a strong market for every healthy calf. Some will be reared as the next generation of dairy cows, while others will be reared to enter the red meat sector.

Success will come from both strong and consistent markets for the calves that are born as well as high standards of animal welfare. There are many positive examples now of successful calf management that create an important source of income for dairy businesses, but these examples are not operating at a scale that can be applied across the whole Australian dairy industry. There is too much variation in the market from year-to-year.

A 'roadmap' approach was chosen as the best way to find a lasting solution to calf management. Dairy Australia chose this approach because it is proactive and it provides an opportunity to listen to farmers, researchers, processors and the community and bring all these groups together to jointly work on enduring solutions for all involved.

We recognise that this approach needs the dairy and red meat sectors to work together and that enduring solutions take years to establish and work through the big issues of market variation and market acceptance of new and innovative supply chains.

This roadmap is published with the knowledge that success is attainable – there are credible examples overseas and success is happening in more substantial ways in Australia. The combined efforts of all involved in the roadmap creation are required for the next five to ten years, and the shared reward is a solution that delivers an important role in the dairy and red meat sectors for every healthy calf born on a dairy farm. We call this 'CalfWays'!

David Nation Managing Director

Executive summary

The management of dairy calves not required for herd maintenance presents both a challenge and an opportunity for the Australian dairy industry. Existing options for such calves has typically included consignment within 5-30 days as bobby calves, raising calves for beef production by either dairy farmers or specialised rearers, sale for live export or on-farm euthanasia.

CalfWays, the Sustainable Dairy Calf Management Roadmap, aims to transform the management of dairy calves in Australia by 2035. Developed by Dairy Australia in collaboration with more than 150 stakeholders, the roadmap seeks to address the challenges and unlock opportunities presented by calves that are not utilised in the dairy herd. The CalfWays initiative focuses on ensuring all dairy-origin calves can enter valued market pathways.

Key themes and goals

- **Stakeholder commitment**
  Encourages all individuals and businesses working with dairy calves to adopt sustainable calf managing, rearing and handling practices, emphasising animal welfare and market viability.
- **Capability building**
  Focuses on equipping dairy farmers with the knowledge and resources to implement breeding strategies that produce healthy, market-fit calves, and assisting beef supply chain stakeholders evaluate beef-on-dairy market opportunities.
- **Market connections**
  Aims to build robust market opportunities for dairy calves including through collaboration between the beef and dairy industries, thus enhancing the economic value of surplus calves.
- **Fostering partnerships**
  Promotes innovation and joint efforts among stakeholders to develop sustainable solutions and provide profitable alternatives to routine euthanasia.

Strategic approach

The dairy industry has been actively working to improve the management of dairy calves not needed for herd growth, implementing more sustainable and welfare-focused practices over recent years.

Sustainable calf management presents an opportunity to both the dairy and beef industries. It is only through cross-sectoral cooperation and collaboration from a range of beef and dairy stakeholders that the opportunities for calves can be unlocked.

CalfWays serves as an overarching framework to unify and strengthen existing initiatives by the dairy and beef industries and drive further innovation across both industries in sustainable calf management.

CalfWays is structured around specific Goals, Objectives, Strategies and Tactics that foster alignment between the beef and dairy industries in order to address a range of challenges and return value to both industries.

Opportunities for value creation

CalfWays presents multiple opportunities for value creation across the supply chain. For dairy farmers, surplus calves represent a potential revenue stream if they can be integrated into beef markets or sold as live exports. Rearers and finishers stand to benefit from increased demand which would incentivise the rearing of calves to meet market specifications. Meat processors see value in increasing the sale of red meat that includes beef-on-dairy while dairy processors and retailers see value in sustainable calf management from a sustainability and corporate social responsibility perspective.

Additionally, by reducing on-farm euthanasia and integrating calves into productive markets, CalfWays supports opportunities for supply chains to reduce scope 3 greenhouse gas emissions, as beef-on-dairy emissions intensities are significantly lower than conventional beef, due to the attribution of dam emissions to both milk and beef, contributing to broader corporate sustainability objectives.

Economic impacts

CalfWays presents significant economic potential by integrating dairy calves into beef production systems. The initiative is designed to provide a viable future for all calves, ensuring that both the beef and dairy industries can thrive sustainably.

CalfWays offers a comprehensive framework that seeks to balance industry growth with societal expectations for animal welfare, creating a more sustainable and economically viable future for the beef and dairy sectors.

CalfWays at a glance

Theme	Stakeholder commitment	Capability building	Market connections	Fostering partnerships
Goal	Sustainable practices for thriving and valued calves	Value creation capability for dairy and beef stakeholders	Robust opportunities for Australian dairy and beef stakeholders	Stronger dairy and beef industries through collaboration and innovation
Objectives	1. All people working with dairy calves commit to sustainable production, and rearing and handling practices that prioritise animal welfare market viability ensuring that all calves are valued throughout the supply chain. 2. Supply chain businesses commit to supporting dairy producers move away from routine euthanasia of viable calves by ensuring all calves are valued and strengthening both the Australian beef and dairy supply chains.	3. Dairy farmers have the knowledge, resources and support to plan and implement their breeding and production activities that ensure all calves are healthy, viable and fit for purpose. 4. Calves are recognised as a valued opportunity by both the beef and dairy industries, with established pathways to ensure their health, welfare and market viability.	5. Supply chain stakeholders collaborate to develop and sustain robust market opportunities for calves; ensuring animal welfare, economic viability and market demand. 6. Market information is developed and communicated to ensure producers are aware of market opportunities, requirements and trends; enabling the production of suitable animals for targeted markets.	7. Through collaborative partnerships, innovation and RDE&A, stakeholders develop sustainable solutions for all calves; empowering dairy farmers to transition away from routine euthanasia of viable calves by providing profitable alternatives that strengthen Australian beef and dairy supply chains.
Strategies	1.1 Commit to and implement sustainable calf production, rearing and handling practices. 1.2 Rear surplus calves with as much attention to welfare as retained calves. 1.3 Demonstrate commitment through participation in a certification program that includes sustainable calf management. 1.4 Implement responsible sourcing strategies that improve the value of calves at the farm gate to ensure no viable calf is euthanised on-farm.	3.1 Dairy producers have the resources and confidence to evaluate opportunities and establish partnerships through the supply chain. 3.2 Prioritise collaborative extension and adoption activities that enhance understanding and implementation of profitable beef-on dairy breeding, rearing and finishing systems; ensuring all calves are fit for farm and fit for market. 4.1 Beef supply chain stakeholders are equipped to evaluate market opportunities from beef-on-dairy and establish mutually beneficial supply agreements with dairy producers.	5.1. Beef and dairy supply chain stakeholders actively collaborate to develop and expand profitable markets for beef-on-dairy calves. 5.2. Market opportunities beyond beef-on-dairy continue to be supported and developed. 6.1. Establish and maintain market information channels that provide price insights and trends. 6.2. Clear specifications and feedback are provided to producers by supply chain stakeholders, enabling the breeding and rearing of animals that meet market requirements.	7.1. Pursue funding opportunities that assist dairy farmers in transitioning away from routine euthanasia of viable calves, creating value for beef and dairy supply chains. 7.2. Stakeholders support cooperative infrastructure programs, opportunities for cost sharing and joint ventures. 7.3. Industry and supply chain stakeholders prioritise collaborative approaches to innovation and RDE&A. 7.4. Enhance the capacity of beef and dairy industries to adopt new technologies and practices.
Potential Contributors	DA, Dairy farmers, Calf rearers, Backgrounders, Feedlots, Beef Processors, Milk processors, Retailers, Certification program owners	DA, MLA , Semen providers, AMIC, MSA, AMPC, ADPF, Certification program owners, Government departments, Research institutions, Beef genetic evaluation centres, Beef and dairy breed societies, DataGene	DA, MLA, NLRS, AMIC, Retailers, Food businesses, ADPF, Government departments, Research institutions, Beef genetic evaluation centres, Beef and dairy breed societies, DataGene	DA, MLA, ADPF, AMIC, AMPC, MSA, DataGene, Beef processors, Dairy producers, Calf rearers, Retailers, Government departments, Research institutions, Beef genetic evaluation centres, Beef and dairy breed societies

CalfWays timeline

Determination
The policy for surplus calf management is endorsed by the ADF Board. Dairy Australia leads the roadmap development.

2022

2023

Discovery
Review of current barriers and challenges undertaken and a series of recommendations for the roadmap developed.

Development
Co-design process to develop, test and gain support for the roadmap with a diverse range of dairy and beef stakeholders.

2024

2025-2035

Delivery
Dairy and beef stakeholders collaborate on the implementation of goals, objectives, strategies and tactics under CalfWays.

Contents

Introduction

Managing dairy calves not needed for herd maintenance presents both a substantial challenge and a promising opportunity for the Australian dairy industry. Traditionally, these calves, being either the male or non-replacement females, have been a byproduct of dairy operations. The limited options for such calves often involve early-life slaughter or on-farm euthanasia. However, the industry is shifting its focus toward more sustainable and socially acceptable solutions, aiming to transform this surplus into valuable opportunities for the beef and dairy industries.

Recognising the need for a coordinated strategy, the Australian dairy industry has developed the Sustainable Dairy Calf Management Roadmap (CalfWays) which aims to ensure that by 2035, all dairy calves not required for herd maintenance can enter valued market chains, eliminating the need for routine on-farm euthanasia.

A key driver for change in how such calves are managed is the value creation potential they represent. By aligning calf breeding, rearing and production with market demands, the industry can unlock new economic opportunities and continue to support established opportunities. Additional drivers include the potential productivity gains from a coordinated beef-on-dairy supply chain and the benefits of improved breeding and herd management strategies. Techniques such as the use of sexed semen, genomic testing and strategic breeding aim to optimise herd composition, ensuring that all calves born are better suited to either herd replacement or market needs.

This shift towards a more sustainable approach recognises the importance of responding to consumer expectations for ethical farming practices while maintaining economic viability. The **Australian Dairy Sustainability Framework (ADSF)** and the **Australian Beef Sustainability Framework (ABSF**) provide guidance for improving the sustainability of operations in both sectors, supporting the industry's efforts to balance social responsibilities with market-driven solutions.

The challenges and opportunities

Current avenues for calves

The issue of surplus calves is significant in terms of both the number of calves involved and the economic implications. Each year, approximately one million calves[1] are born on Australian dairy farms. A substantial proportion of these calves, around 59%, are considered surplus to the dairy sector's needs, with 41% of calves born retained as replacement heifers.[2]

Market pathways for such calves include supply into the bobby calf market at 5-30 days of age (337,016 animals in 2023-24 FY, according to levy numbers) or supply into the beef-on-dairy market (21% of calves born), a small portion are exported for breeding purposes. The remainder (8%, representing approximately 80,000 calves per annum) face less desirable outcomes, such as on-farm euthanasia due to sickness, or due to lack of appropriate pathways for those animals.

Data on the number of calves processed in each pathway is incomplete as there is no comprehensive system for tracking dairy-origin animals once they enter the supply chain; however, industry estimates and surveys provide insight into the distribution of calves across different markets (Figure 2). An economic analysis of relative sizes of each market pathways is an important component in implementing CalfWays and is currently being undertaken by Dairy Australia and would set a benchmark for monitoring implementation of the roadmap.

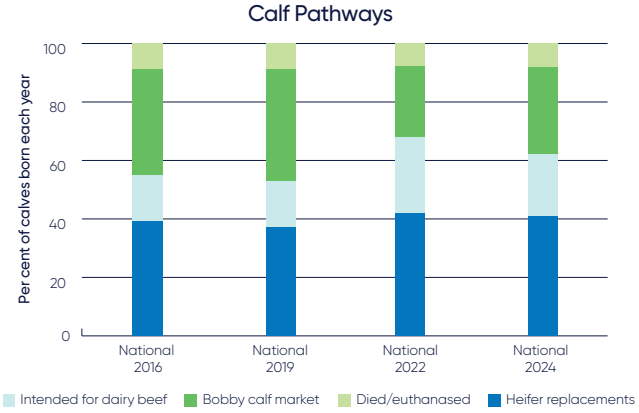


Figure 2: Percentage of calves born per year and different market pathways (nationally and regionally). Dairy Australian Dairy Farmer Survey, 2024.

The integration of dairy calves into the beef market has grown with an increasing market share of beef-on-dairy products. Nonetheless, raising beef-on-dairy animals comes with costs that can limit profitability, especially when market demand for beef is low or regional processing facilities are operating at capacity. CalfWays seeks to alleviate these challenges by developing more consistent and profitable market pathways for surplus calves.

Given approximately 200,000 dairy origin animals are currently entering the adult beef supply chain, the implementation of CalfWays would see 300,000 to 400,000 additional animals enter the beef supply chain. This increase in animals slaughtered would represent less than 7% of animals slaughtered annually in Australia, which could be accommodated by existing processing capacity.[3]

While the increased volume of animals is relatively low, the economic implications of this issue are substantial. The value that the beef industry can derive from dairy-origin calves depends heavily on factors such as beef market prices and regional processing capacities and capabilities, which vary significantly across the different dairy producing states. Fluctuations in beef prices and the capacity of regional abattoirs can significantly impact the viability of raising dairy calves for beef, making it crucial for the implementation of CalfWays to address these variations cooperatively and collaboratively.

Regulatory environment and global context

Globally, the management of surplus calves is becoming increasingly regulated, with countries including Great Britain, Ireland and New Zealand implementing stricter animal welfare standards. For example, the GB Dairy Calf Strategy[4] has successfully integrated surplus calves into the beef supply chain over a three-year period, eliminating the practice of early-life slaughter. In Ireland, the introduction of the National Dairy Beef Welfare Scheme[5] has focused on incentivising farmers that integrate surplus dairy calves into the beef production supply chain, supported by the use of crossbreeding with beef bulls to produce calves with higher market value.

1 Dairy Australia In Focus report – 2022-23 FY there were 1.2 million dairy cows. Approximately 80% of cows produce a calf each year.
2 Dairy Australia National Dairy Farmer Survey 2024
3 MLA – red meat facts
4 Agriculture and Horticulture Development Board (AHDB). GB Dairy Calf Strategy, 2020-2023. Access online: https://ahdb.org.uk/GB-calf-strategy
5 CAP Network Ireland. National Dairy Beef Welfare Scheme. Access online: https://capnetworkireland.eu/schemes/national-dairy-beef-welfare-scheme/

The dairy industry in Ireland has also developed a Ten-point Action Plan on supporting Dairy Calf to Beef Systems.[6] Meanwhile, in New Zealand, some supply chain actors have moved to ban early life slaughter of surplus dairy calves by their suppliers.

CalfWays takes inspiration from these international approaches while recognising the unique challenges posed by Australia's local market conditions and regulatory environments.

While there is currently no mandatory regulatory action in Australia, CalfWays encourages voluntary action from farmers and supply chain stakeholders to adopt more sustainable calf management practices before regulation is imposed.

Market approaches and challenges

The current market for surplus calves is characterised by a mix of approaches. Some farmers rear surplus calves for beef production, while a small number sell them to specialist rearers. Processors and retailers are increasingly incorporating beef-on-dairy products into their supply chains. Dairy processors and retailers, in particular, play a pivotal role in increasing the opportunity for beef-on-dairy through their sustainable sourcing policies and practices, which in turn creates incentives for farmers and rearers to invest in raising surplus calves. Despite these efforts, challenges remain including labour shortages, infrastructure and land availability and price volatility for the dairy farmer, as well as perceived quality concerns and yield challenges for meat processors, all of which make it difficult to ensure consistent and sustainable pathways for all surplus calves.

Opportunities for value creation

CalfWays presents multiple opportunities for value creation across the supply chain. For dairy farmers, surplus calves represent a potential revenue stream if they can be integrated into beef markets or sold as live exports. Rearers and finishers stand to benefit from increased demand which would incentivise the rearing of calves to meet market specifications. Meat processors see value in increasing the sale of red meat that includes beef-on-dairy while dairy processors and retailers see value in sustainable calf management from a sustainability and corporate social responsibility perspective.

Additionally, by reducing on-farm euthanasia and integrating calves into productive markets, CalfWays supports opportunities for supply chains to reduce scope 3 greenhouse gas emissions, as beef-on-dairy emissions intensities are significantly lower than conventional beef, due to the attribution of dam emissions to both milk and beef, contributing to broader corporate sustainability objectives.

Policy development and industry support

In recognising the need for a more sustainable approach to calf management and the opportunity to create value for the dairy industry, Australian Dairy Farmers (ADF) introduced the Surplus Dairy Calf Policy[7] aimed at eliminating routine euthanasia of viable calves by 2035. The policy focuses on ensuring that all calves born in the dairy sector can enter a valued market chain, whether through beef production, replacement heifers, or other sustainable pathways. The policy, endorsed in 2022, recognises that a comprehensive, multi-stakeholder approach is required which not only focuses on on-farm change but also necessitates a concerted effort across the beef and dairy industries and supply chains.

6 Ten-Point Action Plan on supporting Dairy Calf to Beef Systems. Access online: https://www.teagasc.ie/publications/2024/ten-point-action-plan-on-supporting-dairy-calf-to-beef-systems-in-ireland.php
7 Dairy Australia. Calfways. Access online: https://www.dairyaustralia.com.au/animals/calf-rearing/calfways-roadmap

Development of CalfWays

Collective impact

Achieving a sustainable approach to calf management requires a multipronged approach that proposes solutions to a variety of challenges that impact all parts of the beef and dairy industry and supply chains.

To this end, CalfWays aims to bring together members of both the beef and dairy industry supply chains to develop and implement the roadmap with the assistance from dairy and meat industry bodies and a primary (or "backbone") organisation to drive the implementation and monitoring of CalfWays.

The development and implementation of CalfWays draws on the Collective Impact Framework (CIF) (Figure 1) which has also been adopted by the Australian Packaging Covenant Organisation (APCO) to produce a roadmap for one of the dairy industry's other strategic priorities, the Australian dairy sustainable packaging roadmap.

The CIF considers the diversity of organisations that are required to support a more sustainable approach to calf management by 2035 and provides a structured platform to deliver an inclusive, cross-disciplinary approach to sustainable dairy calf management in Australia.

Figure 1: Collective impact framework

The CIF encompasses five key pillars which have been adapted to the development and implementation of CalfWays, as provided in Table 1.

Table 1: Collective impact framework and application to CalfWays

Collective impact framework pillar	Application to CalfWays
Common agenda	• Industry and supply chain led delivery of the Surplus Dairy Calf Policy.
Mutually reinforcing activities	• Ongoing collaborative activity to develop and evolve CalfWays. • Industry and supply chain endorsement of the goals and objectives of CalfWays. • Ongoing review and reporting against CalfWays and continual improvement and evolution of CalfWays.
Continuous communication	• Continuous industry and supply chain-engagement of CalfWays during development. • Alignment of external communications with CalfWays to articulate goals and progress.
Backbone organisation	• DA supported and managed the development of CalfWays. • CalfWays aligns with DA and MLAS strategies. • Dedicated resource to progress CalfWays jointly funded by industry stakeholders.
Measuring results	• Industry and supply chain commitment to capture and share non-competitive data on progress against CalfWays goals and objectives and opportunities for improvement to CalfWays.

Collective development

The development of CalfWays was based on a co-design approach, with extensive consultation and testing of Goals, Objectives, Strategies and Tactics for the roadmap over an 18-month period.

The consultation process engaged a wide array of stakeholders from across the dairy industry, including farmers, processors and supply chain partners. It also included key representatives from the beef industry and governments.

Participants ranged from those directly involved in on-farm operations to those working throughout the broader supply chain, along with industry organisations and state government departments. This diverse group ensured that perspectives from every part of the beef and dairy industries were considered in the development of CalfWays.

More than 150 stakeholders participated in the consultation process either in-person or online.

An advisory committee was also engaged to assist in the development of CalfWays. This committee included representatives of dairy farmers, dairy processors and the red meat and livestock industry.

Collective support

More sustainable calf management presents an opportunity to both the beef and dairy industries. It is only through cross-sectoral cooperation and collaboration from a range of dairy and beef stakeholders that the industry can achieve its goal.

These stakeholders include beef and dairy farmers, calf rearers, dairy and beef processors, retailers, industry representative bodies, research and development corporations and institutions, genetics-related organisations, commercial organisations, governments and non-government organisations.

Purpose of CalfWays

CalfWays provides a collective vision and framework for sustainable dairy calf management, including the goals, objectives, strategies and actions that aim to realise the ADF Surplus Dairy Calf Policy and deliver on the beef and dairy industry's commitments to sustainability, animal welfare and value creation.

Alignment to industry initiatives and strategies

CalfWays aligns with Dairy Australia's Strategic Plan[8] 2020–2025 and Meat & Livestock Australia's Strategic Plan 2025[9] (Figure 3) as well as the red meat industry's strategic plan to 2030 (Red Meat 2030)[10].

DA Strategic Plan	MLA Strategic Plan	Red meat 2030
More resilient farm businesses (outcomes a, b and c).	Targeted investment to address the industry's big, complex challenges.	Double the value of Australian red meat sales.
Strong community support for dairy (outcomes a and b).	Beyond today's farmgate.	

Figure 3: Alignment with Dairy Australia's (DA) Strategic Plan 2020–2025, Meat & Livestock Australia's (MLA) Strategic Plan 2025 and Red Meat 2030

In addition, CalfWays also aligns with the sustainability frameworks of both the beef and dairy industries (Figure 4).

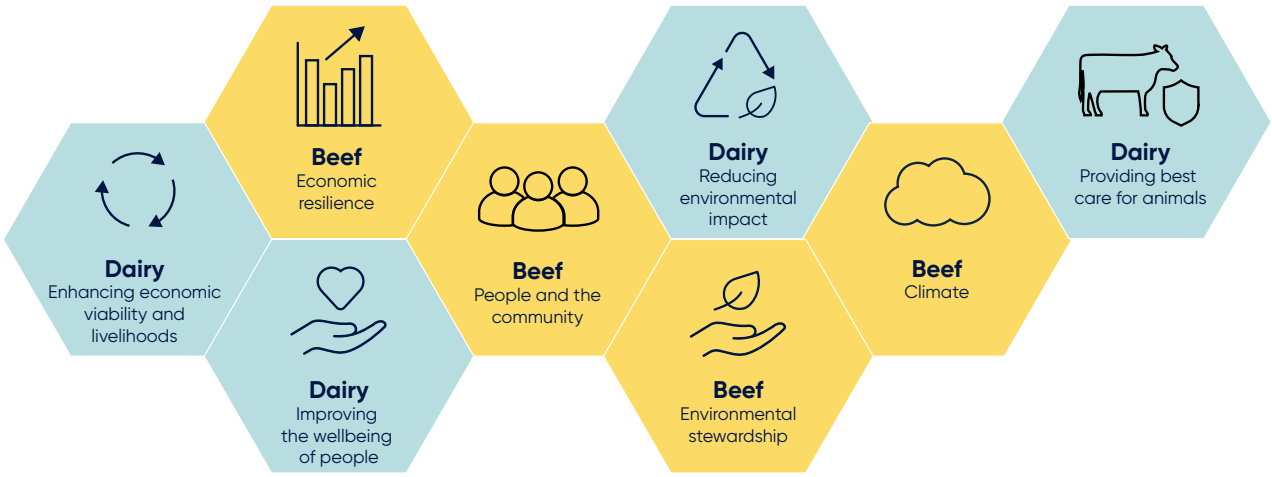


Figure 4: Alignment with the Australian Dairy Sustainability Framework and the Australian Beef Sustainability Framework

8 Dairy Australia. Strategic Plan 2020–2025. Access online: **https://www.dairyaustralia.com.au/about-us/strategy-and-performance/strategic-plan**
9 Meat & Livestock Australia. Strategic Plan 2025. Access online: **https://www.mla.com.au/globalassets/mla-corporate/about-mla/documents/planning--reporting/Strategic-Plan-2025.pdf**
10 Red Meat Advisory Council (RMAC). Red Meat 2030. Access online: **https://www.rmac.com.au/red-meat-2030**

Structure of CalfWays

The structure of CalfWays follows the GOST model where every theme has a Goal, Objectives, Strategies and then Tactics for implementation (Figure 5).

Each Goal may have one or more Objectives and each Objective may have one or more Strategies, as with Tactics.

Essential to the GOST model is the identification of potential contributors to the Tactics. Such contributors are those stakeholders that can contribute to the completion of the task and therefore the attainment of the Strategy, Objective and Goal. This may be in the form of contributions of time, funding, human resources or connections.

The model also includes timeframes for completion of tasks and approaches to monitoring, evaluation, reporting and improvement (MERI) for each GOST element. This ultimately leads to MERI for CalfWays as a whole.

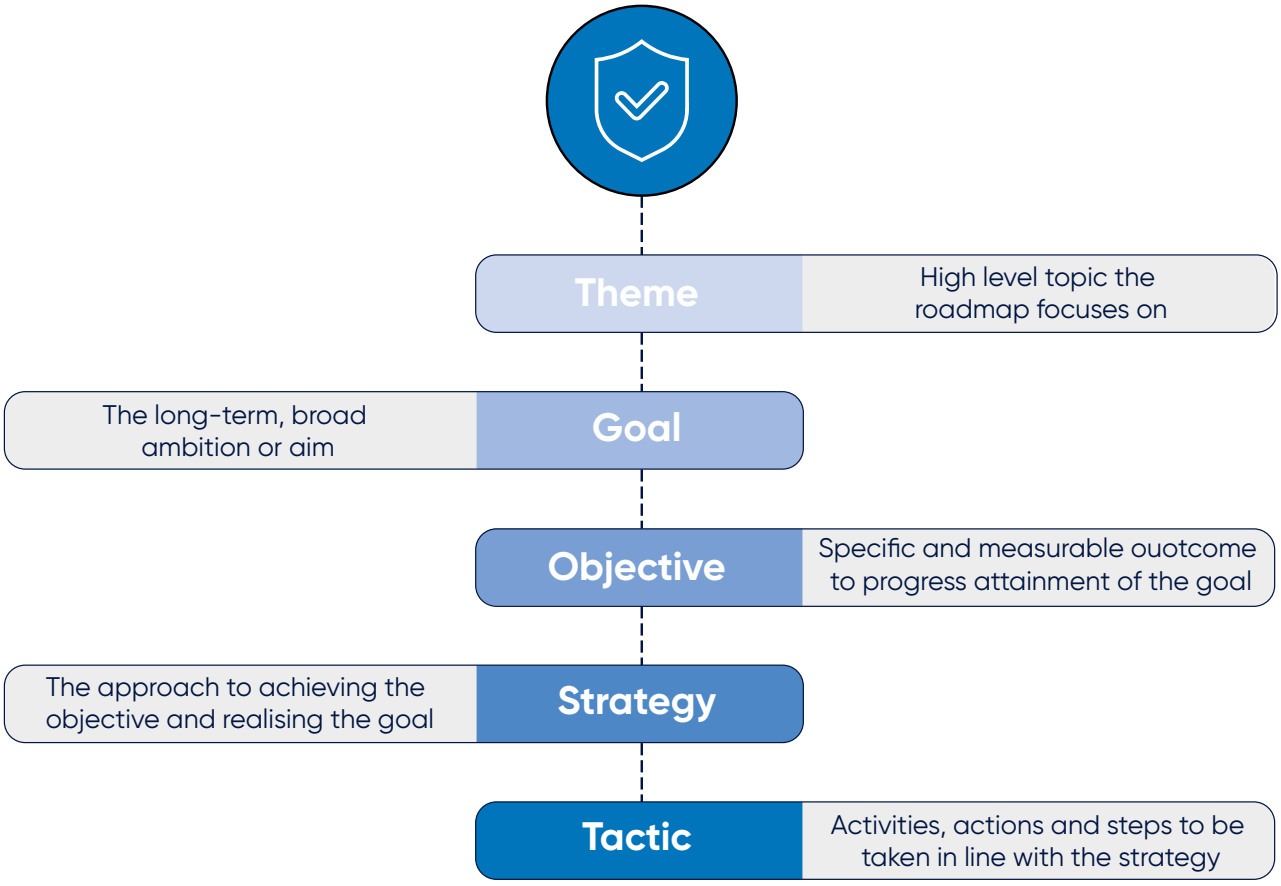


Figure 5: GOST model for CalfWays

CalfWays – Sustainable Dairy Calf Management Roadmap

Theme	Stakeholder commitment	Capability building	Market connections	Fostering partnerships
Goal	Sustainable practices for thriving and valued calves	Value creation capability for dairy and beef stakeholders	Robust opportunities for Australian dairy and beef stakeholders	Stronger dairy and beef industries through collaboration and innovation
Objectives	1. All people working with dairy calves commit to sustainable production, and rearing and handling practices that prioritise animal welfare market viability ensuring that all calves are valued throughout the supply chain. 2. Supply chain businesses commit to supporting dairy producers move away from routine euthanasia of viable calves by ensuring all calves are valued and strengthening both the Australian beef and dairy supply chains.	3. Dairy farmers have the knowledge, resources and support to plan and implement their breeding and production activities that ensure all calves are healthy, viable and fit for purpose. 4. Calves are recognised as a valued opportunity by both the beef and dairy industries, with established pathways to ensure their health, welfare and market viability.	5. Supply chain stakeholders collaborate to develop and sustain robust market opportunities for calves; ensuring animal welfare, economic viability and market demand. 6. Market information is developed and communicated to ensure producers are aware of market opportunities, requirements and trends; enabling the production of suitable animals for targeted markets.	7. Through collaborative partnerships, innovation and RDE&A, stakeholders develop sustainable solutions for all calves; empowering dairy farmers to transition away from routine euthanasia of viable calves by providing profitable alternatives that strengthen Australian beef and dairy supply chains.
Strategies	1.1 Commit to and implement sustainable calf production, rearing and handling practices. 1.2 Rear surplus calves with as much attention to welfare as retained calves. 1.3 Demonstrate commitment through participation in a certification program that includes sustainable calf management. 1.4 Implement responsible sourcing strategies that improve the value of calves at the farm gate to ensure no viable calf is euthanised on-farm.	3.1 Dairy producers have the resources and confidence to evaluate opportunities and establish partnerships through the supply chain. 3.2 Prioritise collaborative extension and adoption activities that enhance understanding and implementation of profitable beef-on dairy breeding, rearing and finishing systems; ensuring all calves are fit for farm and fit for market. 4.1 Beef supply chain stakeholders are equipped to evaluate market opportunities from beef-on-dairy and establish mutually beneficial supply agreements with dairy producers.	5.1. Beef and dairy supply chain stakeholders actively collaborate to develop and expand profitable markets for beef-on-dairy calves. 5.2. Market opportunities beyond beef-on-dairy continue to be supported and developed. 6.1. Establish and maintain market information channels that provide price insights and trends. 6.2. Clear specifications and feedback are provided to producers by supply chain stakeholders, enabling the breeding and rearing of animals that meet market requirements.	7.1. Pursue funding opportunities that assist dairy farmers in transitioning away from routine euthanasia of viable calves, creating value for beef and dairy supply chains. 7.2. Stakeholders support cooperative infrastructure programs, opportunities for cost sharing and joint ventures. 7.3. Industry and supply chain stakeholders prioritise collaborative approaches to innovation and RDE&A. 7.4. Enhance the capacity of beef and dairy industries to adopt new technologies and practices.
Potential Contributors	DA, Dairy farmers, Calf rearers, Backgrounders, Feedlots, Beef Processors, Milk processors, Retailers, Certification program owners	DA, MLA , Semen providers, AMIC, MSA, AMPC, ADPF, Certification program owners, Government departments, Research institutions, Beef genetic evaluation centres, Beef and dairy breed societies, DataGene	DA, MLA, NLRS, AMIC, Retailers, Food businesses, ADPF, Government departments, Research institutions, Beef genetic evaluation centres, Beef and dairy breed societies, DataGene	DA, MLA, ADPF, AMIC, AMPC, MSA, DataGene, Beef processors, Dairy producers, Calf rearers, Retailers, Government departments, Research institutions, Beef genetic evaluation centres, Beef and dairy breed societies

Theme 1: Stakeholder commitment

Goal: Sustainable practices for thriving and valued calves

Objectives	Strategies
1. All people working with dairy calves commit to sustainable production, rearing and handling practices that prioritise animal welfare and market viability ensuring that all calves are valued throughout the supply chain.	1.1 Commit to and implement sustainable calf production, rearing and handling practices.
	1.2. Rear surplus calves with as much attention to welfare as retained calves.
	1.3. Demonstrate commitment through participation in a certification program that includes sustainable calf management.
2. Supply chain businesses commit to supporting dairy producers move away from routine euthanasia of viable calves by ensuring all calves are valued and strengthening both the Australian beef and dairy supply chains.	2.1. Implement responsible sourcing strategies that improve the value of calves at the farm gate to ensure no viable calf is euthanised on-farm.

Objective 1	All people working with dairy calves commit to sustainable production, rearing and handling practices that prioritise animal welfare and market viability ensuring that all calves are valued throughout the supply chain.

Strategy	1.1. Commit to and implement sustainable calf production, rearing and handling practices.

Tactics	Potential Contributors	Timeframe		
		2025-2028	2029-2032	2033-2035
1.1.1. Develop a *Sustainable calf breeding, management and rearing protocol* that ensures there is no routine on-farm euthanasia of viable calves unless no other option.	DA			
1.1.2. Develop a *Declaration of commitment* to sustainable breeding, management and rearing of calves emphasising equal attention to welfare and viability.	DA			
1.1.3. Implement and publicly share the *Declaration of commitment* to sustainable breeding, management and rearing of all calves.	Dairy farmers, calf rearers and backgrounders			
1.1.4. Encourage feedlots with National Feedlot Accreditation System (NFAS) to sustainably source dairy-beef animals.	Feedlots			
1.1.5. Ensure industry "fit to load" guides for transport adequately address the fitness for transport of calves.	DA/MLA			
1.1.6. Review the Australian Livestock Processing Industry Animal Welfare Certification System (AAWCS) to ensure that handling of calves in lairage through to slaughter is optimised.	AMIC			

Strategy	1.2. Rear surplus calves with as much attention to welfare as retained calves.			
Tactics	**Potential Contributors**	**Timeframe**		
		2025-2028	2029-2032	2033-2035
1.2.1. Align all practices to the *Sustainable calf breeding, management and rearing protocol* to ensure all calves receive the best start to life and are viable for the intended market.	Dairy farmers, calf rearers and backgrounders			
1.2.2. Continuously work to towards best practices as defined by the *Sustainable calf breeding, management and rearing protocol*, ensuring all calves receive optimal care and are market ready.	Dairy farmers, calf rearers and backgrounders			
1.2.3. Minimise mortality by adhering to the *Sustainable calf breeding, management and rearing protocol.*	Dairy farmers, calf rearers and backgrounders			
1.2.4. Ensure all calves consigned for sale and transport are declared as in compliance with the *Sustainable calf breeding, management and rearing protocol* on the LPA NVD.	Dairy farmers, calf rearers and backgrounders			
1.2.5. Ensure all calves consigned for transport meet relevant "fit to load" guides.	Dairy farmers, calf rearers and backgrounders			

Strategy	1.3. Demonstrate commitment through participation in a certification program that includes sustainable calf management.			
Tactics	**Potential Contributors**	**Timeframe**		
		2025-2028	2029-2032	2033-2035
1.3.1. Incorporate the *Sustainable calf breeding, management and rearing protocol* into industry certification program/s.	Certification program owners			

Objective 2	Supply chain businesses commit to supporting dairy producers move away from routine euthanasia of viable calves by ensuring all calves are valued and strengthening both the Australian beef and dairy supply chains.			
Strategy	2.1. Implement responsible sourcing strategies that improve the value of calves at the farm gate to ensure no viable calf is euthanised on-farm.			
Tactics	**Potential Contributors**	**Timeframe**		
		2025-2028	2029-2032	2033-2035
2.1.1. Commit to including beef-on-dairy products in sourcing and procurement policies.	Beef processors/buyers and retailers			
2.1.2. Mandate the sourcing of dairy and beef-on-dairy products that adhere to the *Sustainable calf breeding, management and rearing protocol.*	Milk processors/buyers, beef processors/buyers and retailers			
2.1.3. Embed adherence to the *Sustainable calf breeding, management and rearing protocols* in all sourcing and procurement policies for both beef and dairy products.	Retailers			
2.1.4. Integrate adherence to the *Sustainable calf breeding, management and rearing protocol* into milk supply chain contracts.	Milk processors/buyers, retailers			
2.1.5. Incorporate the *Sustainable calf breeding, management and rearing protocol* into pricing grids for beef and beef cattle.	Beef processors/buyers			
2.1.6. Require suppliers to confirm adherence to the *Sustainable calf breeding, management and rearing protocols* on the Livestock Production Assurance (LPA) National Vendor Declaration (NVD).	Beef processors/buyers			

Monitoring, evaluation, reporting and improvement (MERI)

Goal: Sustainable practices for thriving and valued calves

Objective 1: All people working with dairy calves commit to responsible production, rearing and handling practices that prioritise animal welfare and market viability ensuring that all calves are valued throughout the supply chain.

Strategies	MERI
1.1. Commit to and implement responsible calf production, rearing and handling practices.	a. Number of dairy producers that have signed the Declaration of commitment. b. Sustainable sourcing of beef-on-dairy animals embedded in NFAS. c. Benchmarking and monitoring trend in on-farm euthanasia. d. Fit to load guides reviewed to ensure they adequately address transport of calves. e. AAWCS reviewed to ensure that handling of calves in lairage through to slaughter is optimised.
1.2. Rear surplus calves with as much attention to welfare as retained calves.	a. Number of calves consigned for sale declared as compliant with the Sustainable calf breeding, management and rearing protocol on LPA NVDs. b. Benchmarking and monitoring of mortality rates of surplus calves.
1.3. Demonstrate commitment through participation in a certification program that includes sustainable calf management.	a. Number of dairy farmers certified as complying with the Sustainable calf breeding, management and rearing protocol.

Objective 2: Supply chain businesses commit to supporting dairy producers move away from routine euthanasia of viable calves by ensuring all calves are valued and strengthening both the Australian beef and dairy supply chains.

Strategies	MERI
2.1. Implement responsible sourcing strategies that improve the value of calves at the farm gate to ensure no viable calf is euthanised on-farm.	a. Number of supply chain businesses that have committed to including beef-on-dairy products in sourcing and procurement policies. b. Number of supply chain businesses that have mandated adherence to the Sustainable calf breeding, management and rearing protocol. c. Beef and beef cattle pricing grids consider the Sustainable calf breeding, management and rearing protocol. d. Number of calves consigned for sale declared as compliant with the Sustainable calf breeding, management and rearing protocol on LPA NVDs. e. Benchmarking and monitoring trend in on-farm euthanasia.

Theme 2: Capability building

Goal: Value creation capability for dairy and beef stakeholders

Objectives	Strategies
3. Dairy farmers have the knowledge, resources and support to plan and implement their breeding and production activities that ensure all calves are healthy, viable and fit for purpose.	3.1. Dairy producers have the resources and confidence to evaluate opportunities and establish partnerships through the supply chain.
	3.2. Prioritise collaborative extension and adoption activities that enhance understanding and implementation of profitable beef-on-dairy breeding, rearing and finishing systems; ensuring all calves are fit for farm and fit for market.
4. Calves are recognised as a valued opportunity by both the beef and dairy industries, with established pathways to ensure their health, welfare and market viability.	4.1. Beef supply chain stakeholders are equipped to evaluate market opportunities from beef-on-dairy and establish mutually beneficial supply agreements with dairy producers.

Objective 3	Dairy farmers have the knowledge, resources and support to plan and implement their breeding and production activities that ensure all calves are healthy, viable and fit for purpose.
Strategy	3.1. Dairy producers have the resources and confidence to evaluate opportunities and establish partnerships through the supply chain.

Tactics	Potential Contributors	Timeframe		
		2025-2028	2029-2032	2033-2035
3.1.1. Implement practical extension activities to help dairy farmers and beef-on-dairy producers understand market requirements, assess opportunities, choose appropriate markets and produce the best possible calves for those markets.	DA, MLA Government departments			
3.1.2 Develop online resources and toolkits accessible to all stakeholders, ensuring continual learning and improvement.	DA, MLA			
3.1.3. Create financial modelling tools and resources to help farmers and calf rearers evaluate the economic viability of various market pathways.	DA, MLA, AMIC, ADPF			

Strategy	3.2. Prioritise collaborative extension and adoption activities that enhance understanding and implementation of profitable beef-on-dairy breeding, rearing and finishing systems ensuring all calves are fit for farm and fit for market			
Tactics		Potential Contributors	Timeframe	
			2025-2028	2029-2032	2033-2035
3.2.1.	Undertake extension, adoption and communication activities to increase understanding and adoption of the *Sustainable calf breeding, management and rearing protocol.*	DA, Government departments			
3.2.2.	Develop comprehensive training programs on sustainable calf rearing practices for all stakeholders in the supply chain.	DA			
3.2.3.	Provide on-farm advisors with information to help beef and dairy producers implement and maintain best practices.	DA, MLA, Government departments			
3.2.4.	Implement extension, adoption and communication activities to promote best practice characteristics of profitable enterprises targeting markets for dairy-origin calves.	DA, MLA, Government departments, beef and dairy breed societies			
3.2.5.	Promote best practices through extension and communication activities to optimise the cost-efficiency of sexed semen.	DA, MLA, Government departments, semen providers, beef and dairy breed societies			
3.2.6.	Facilitate the adoption of selection tools to aid in herd segmentation decisions through targeted extension and communication activities.	DA, MLA, Government departments, DataGene, research institutions, beef genetic evaluation centres			
3.2.7.	Promote the use of beef-on-dairy indexes through extension activities to help farmers make informed sire selection decisions.	DA, MLA, Government departments, DataGene, research institutions, beef genetic evaluation centres, beef and dairy breed societies			
3.2.8.	Conduct collaborative extension activities to highlight opportunities for genetic gain in dairy herds through herd segmentation and the use of optimal genetics for producing replacements.	DA, MLA, Government departments, DataGene, research institutions, beef genetic evaluation centres, beef and dairy breed societies			
3.2.9.	Disseminate information on cost-effective animal husbandry and feeding regimes to ensure calves can be raised to meet market specifications profitably.	DA, MLA, Government departments			
3.2.10.	Create a central repository of practical extension tools to support business planning, market identification genetic selection technologies, nutritional management and animal health and welfare.	DA, MLA			
3.2.11.	Develop and promote practical extension activities to help farmers choose the most appropriate bull for their farming system and target market, ensuring optimal investment in genetics.	DA, MLA, Government departments			
3.2.12.	Provide on-farm demonstration sites to facilitate peer-to-peer learning and showcase best practices in beef-on-dairy breeding and rearing.	DA, MLA			

Objective 4	Calves are recognised as a valued opportunity by both the beef and dairy industries, with established pathways to ensure their health, welfare and market viability.
Strategy	4.1. Beef supply chain stakeholders are equipped to evaluate market opportunities from beef-on-dairy and establish mutually beneficial supply agreements with dairy producers.

Tactics	Potential Contributors	Timeframe		
		2025-2028	2029-2032	2033-2035
4.1.1. Conduct supply modelling to demonstrate supply potential and encourage investment from supply chain stakeholders.	DA, MLA, AMIC, AMPC			
4.1.2. Promote opportunities for meat supply chain stakeholders to incorporate dairy-origin into their supply chain and engage with the dairy industry to create mutual value.	DA, MLA, AMIC			
4.1.3. Improve communication of beef-on-dairy eating quality outcomes to meat supply chain stakeholders and their clients to enhance acceptance.	DA, MLA, AMIC, MSA, AMPC			
4.1.4. Promote the environmental benefits and scope 3 emissions reporting opportunities of incorporating beef-on-dairy into supply chains.	DA, ADPF, AMIC			
4.1.5. Develop case studies and success stories to illustrate the benefits of beef-on-dairy partnerships for meat supply chain stakeholders.	DA, MLA, ADPF, AMIC, Government departments			
4.1.6. Organise industry tours and site visits for meat supply chain stakeholders to see successful beef-on-dairy operations firsthand.	DA, MLA, ADPF, AMIC, Government departments			
4.1.7. Provide training and resources to red meat supply chain stakeholders on best practices for integrating dairy calves into their supply chains.	DA, MLA			

Monitoring, evaluation, reporting and improvement (MERI)

Goal: Value creation capability for dairy and beef stakeholders

Objective 3: Dairy farmers have the knowledge, resources and support to plan and implement their breeding and production activities that ensure all calves are healthy, viable and fit for purpose.

Strategies	MERI
3.1. Dairy producers have the resources and confidence to evaluate opportunities and establish partnerships through the supply chain.	a. Financial modelling tools that assist economic evaluation of opportunities. b. Measure of confidence of dairy producers through survey. c. Benchmarking and monitoring trend of on-farm euthanasia and dairy-beef uptake through the supply chain.
3.2. Prioritise collaborative extension and adoption activities that enhance understanding and implementation of profitable beef-on-dairy breeding, rearing and finishing systems; ensuring all calves are fit for farm and fit for market.	a. Number of extension and adoption activities undertaken. b. Feedback ratings of extension and adoption activities for value and satisfaction. c. Feedback ratings of extension and adoption activities showing intent to change practice. d. Longitudinal study post-extension and adoption activity participation showing practice change. e. Usage metrics of the central repository of extension tools.

Objective 4: Calves are recognised as a valued opportunity by both the beef and dairy industries, with established pathways to ensure their health, welfare and market viability.

Strategies	MERI
4.1. Beef supply chain stakeholders are equipped to evaluate market opportunities from beef-on-dairy and establish mutually beneficial supply agreements with dairy producers.	a. Supply chain modelling undertaken. b. Measure of understanding of opportunities for meat supply chain stakeholders, eating quality and scope 3 emissions through survey. c. Benchmarking and monitoring trend in beef-on-dairy uptake through the supply chain.

Theme 3: Market connections

Goal: Robust opportunities for Australian dairy and beef stakeholders

Objectives	Strategies
5. Supply chain stakeholders collaborate to develop and sustain robust market opportunities for calves; ensuring animal welfare, economic viability and market demand.	5.1. Beef and dairy supply chain stakeholders actively collaborate to develop and expand profitable markets for beef-on-dairy calves.
	5.2. Market opportunities beyond beef-on-dairy continue to be supported and developed.
6. Market information is developed and communicated to ensure producers are aware of market opportunities, requirements and trends; enabling the production of suitable animals for targeted markets.	6.1. Establish and maintain market information channels that provide price insights and trends.
	6.2. Clear specifications and feedback are provided to producers by supply chain stakeholders, enabling the breeding and rearing of animals that meet market requirements.

Objective 5	Supply chain stakeholders collaborate to develop and sustain robust market opportunities for calves; ensuring animal welfare, economic viability and market demand.

Strategy	5.1. Beef and dairy supply chain stakeholders actively collaborate to develop and expand profitable markets for beef-on-dairy calves.

Tactics	Potential Contributors	Timeframe		
		2025-2028	2029-2032	2033-2035
5.1.1. Develop and promote model supply chain contracts with agreed pricing, standards and requirements.	DA, MLA, supply chain stakeholders			
5.1.2. Facilitate expansion of established beef-on-dairy farms and calf rearing facilities and encourage new entrants into calf rearing through provision of best practice information, economic modelling and training.	DA, MLA, supply chain stakeholders			
5.1.3. Invest in targeted market and product development initiatives to build and sustain demand for beef-on-dairy animals and products.	DA, MLA, AMIC, supply chain stakeholders			
5.1.4. Develop and promote forward contract opportunities between beef supply chain stakeholders and dairy producers to ensure stable and predictable markets.	DA, AMIC, supply chain stakeholders			
5.1.5. Develop opportunities to assist calf rearers and processors manage seasonality of supply.	DA, AMIC, supply chain stakeholders			
5.1.6. Facilitate events and forums to connect dairy producers with other stakeholders in the supply chain.	DA, MLA, Government departments			
5.1.7. Offer training programs focused on negotiation and partnership development skills to empower dairy producers in their interactions with beef supply chain stakeholders.	DA, Government departments			

Strategy	5.2. Market opportunities beyond beef-on-dairy continue to be supported and developed.

Tactics	Potential Contributors	Timeframe		
		2025-2028	2029-2032	2033-2035
5.2.1 Continue to support and grow export markets for dairy-origin breeding livestock.	DA, MLA, LiveCorp			
5.2.2. Invest in animal welfare for export breeding livestock to ensure focus on feeder market welfare challenges does not impact sustainability of breeder market.	DA, MLA, LiveCorp			

Objective 6	Market information is developed and communicated to ensure producers are aware of market opportunities, requirements and trends; enabling the production of suitable animals for targeted markets.

Strategy	6.1. Establish and maintain market information channels that provide price insights and trends.

Tactics	Potential Contributors	Timeframe		
		2025-2028	2029-2032	2033-2035
6.1.1. Standardise terminology for market pathways, production, rearing systems and products to ensure clear communication across the supply chain.	DA, MLA, AMIC			
6.1.2. Develop and implement market information channels that provide market data, price trends and demand forecasts such as a calf price indicator and a beef-on-dairy indicator through the National Livestock Reporting Service (NLRS).	DA, MLA			
6.1.3. Develop and implement mechanisms to provide clear, data-driven insights into market opportunities, cost structures and potential returns.	DA, MLA			
6.1.4. Create a database of market opportunities and specifications to help dairy producers identify and access suitable markets for their calves.	DA, MLA			

Strategy	6.2. Clear specifications and feedback are provided to producers by supply chain stakeholders, enabling the breeding and rearing of animals that meet market requirements.

Tactics	Potential Contributors	Timeframe		
		2025-2028	2029-2032	2033-2035
6.2.1. Develop mechanisms for supply chain stakeholders to provide feedback on animal performance, carcase weight and quality metrics to improve producer data-driven decision-making.	MLA			

Monitoring, evaluation, reporting and improvement (MERI)

Goal: Robust opportunities for Australian dairy and beef stakeholders

Objective 5: Supply chain stakeholders collaborate to develop and sustain robust market opportunities for calves; ensuring animal welfare, economic viability and market demand.

Strategies	MERI
5.1. Beef and dairy supply chain stakeholders actively collaborate to develop and expand profitable markets for beef-on-dairy calves.	a. Benchmarking and monitoring trend in on-farm euthanasia and beef-on-dairy uptake through the supply chain.
5.2. Market opportunities beyond beef-on-dairy continue to be supported and developed.	a. Market opportunities beyond beef-on-dairy remain viable.

Objective 6: Market information is developed and communicated to ensure producers are aware of market opportunities, requirements and trends; enabling the production of suitable animals for targeted markets.

Strategies	MERI
6.1. Establish and maintain market information channels that provide price insights and trends.	a. Market information is available to producers. b. enchmarking and monitoring trend in on-farm euthanasia and beef-on-dairy uptake through the supply chain.
6.2. Clear specifications and feedback are provided to producers by supply chain stakeholders, enabling the breeding and rearing of animals that meet market requirements.	a. Analysis of market feedback. b. Benchmarking and monitoring trend in on-farm euthanasia and beef-on-dairy uptake through the supply chain.

Theme 4: Fostering partnerships

Goal: Stronger dairy and beef industries through collaboration and innovation

Objectives	Strategies
7. Through collaborative partnerships, innovation and RDE&A, stakeholders develop sustainable solutions for all calves; empowering dairy farmers to transition away from routine euthanasia of viable calves by providing profitable alternatives that strengthen Australian beef and dairy supply chains.	7.1. Pursue funding opportunities that assist dairy farmers in transitioning away from routine euthanasia of viable calves, creating value for beef and dairy supply chains. 7.2. Stakeholders support cooperative infrastructure programs, opportunities for cost sharing and joint ventures. 7.3. Industry and supply chain stakeholders prioritise collaborative approaches to innovation and RDE&A. 7.4. Enhance the capacity of beef and dairy industries to adopt new technologies and practices.

Objective 7	Through collaborative partnerships, innovation and RDE&A, stakeholders develop sustainable solutions for all calves; empowering dairy farmers to transition away from routine euthanasia of viable calves by providing profitable alternatives that strengthen Australian beef and dairy supply chains.

Strategy	7.1. Pursue funding opportunities that assist dairy farmers in transitioning away from routine euthanasia of viable calves, creating value for beef and dairy supply chains.

Tactics	Potential Contributors	Timeframe		
		2025-2028	2029-2032	2033-2035
7.1.1. Identify and secure funding partners to support supply chain development, capability building and value creation.	DA, MLA, ADPF, AMIC			
7.1.2 . Secure funding for developing extension and adoption resources to assist dairy farmers in transitioning away from routine euthanasia of viable calves.	DA, MLA			
7.1.3. Develop a grant program specifically for dairy farmers to improve infrastructure and management practices for rearing surplus calves.	Governments, Retailers			
7.1.4. Partner with governmental and non-governmental organisations to secure additional funding for sustainable beef-on-dairy initiatives.	Governments, Retailers, NGOs			

Strategy	7.2. Stakeholders support cooperative infrastructure programs, opportunities for cost sharing and joint ventures.

Tactics	Potential Contributors	Timeframe		
		2025-2028	2029-2032	2033-2035
7.2.1. Facilitate exploration of partnership and joint venture opportunities among supply chain stakeholders.	Beef processors, dairy producers, calf rearers, retailers			
7.2.2. Develop a cooperative model for shared ownership and management of calf rearing facilities among dairy farmers.	DA, MLA			
7.2.3. Establish joint ventures with supply chain stakeholders to co-invest in infrastructure and technology for beef-on-dairy production.	DA, MLA			

Strategy	7.3. Industry and supply chain stakeholders prioritise collaborative approaches to innovation and RDE&A.

Tactics	Potential Contributors	Timeframe		
		2025-2028	2029-2032	2033-2035
7.3.1. Establish a joint venture to support innovative RDE&A focused on increasing capacity throughout the beef and dairy supply chains for sustainable calf management.	DA, MLA, ADPF, AMIC, AMPC, research institutions			
7.3.2. Undertake detailed economic studies to assess the profitability and sustainability of different beef-on-dairy market pathways.	DA			
7.3.3. Industry stakeholders support and fund a dedicated resource to drive implementation and delivery of CalfWays through to 2035.	DA, MLA, ADPF, AMIC, AMPC			
7.3.4. Research and quantify the potential environmental benefits and opportunities for scope 3 emissions reporting through the supply chain.	DA, ADPF, AMIC, AMPC, research institutions			
7.3.5. Develop science- and outcomes- based protocols for sustainable breeding and calf management and rearing.	DA, MLA, research institutions			
7.3.6. Create a system for regular review and enhancement of the *Sustainable calf breeding, management and rearing protocol.*	DA, MLA			
7.3.7. Conduct research to identify the common best practice characteristics of profitable beef-on-dairy enterprises.	DA, MLA			
7.3.8. Conduct research to identify best practices for optimising the cost-efficiency of sexed semen.	DA, MLA, semen providers, research institutions, beef genetic evaluation centres, dairy and beef breed societies			
7.3.9 Establish a beef-on-dairy index to assist farmers in making informed sire selection decisions.	DA, MLA, beef genetic evaluation centres, dairy and beef breed societies			
7.3.10. Create selection tools to aid in herd segmentation decisions.	DA, MLA, beef genetic evaluation centres, dairy and beef breed societies			
7.3.11. Conduct collaborative research on the eating quality of beef-on-dairy.	DA, MLA, MSA, research institutions			
7.3.12. Undertake collaborative research to accelerate genetic improvement rates for beef-on-dairy animals.	DA, MLA, DataGene, research institutions, beef genetic evaluation centres			
7.3.13. Research opportunities for dairy herd genetic gain through herd segmentation and prioritisation of optimal genetics for producing replacements.	DA, MLA, DataGene, research institutions, beef genetic evaluation centres			
7.3.14. Investigate cost-effective animal husbandry and feeding regimes to ensure beef-on-dairy cattle to meet market specifications profitably.	DA, MLA, research institutions			
7.3.15. Establish a cross-sector innovation hub to facilitate ongoing collaboration and knowledge sharing between beef and dairy industries.	DA, MLA			
7.3.16. Create a shared database of research findings and case studies accessible to all stakeholders to support informed decision-making.	DA, MLA, AMPC, research institutions			
7.3.17. Foster partnerships with technology providers to implement innovative solutions in beef-on-dairy production.	DA, MLA, AMPC, DataGene, research institutions, beef genetic evaluation centres			
7.3.18. Reliability benchmark and track the number of dairy calves entering different market pathways.	DA, MLA			

Strategy	7.4. Enhance the capacity of beef and dairy industries to adopt new technologies and practices.			
Tactics	Potential Contributors	Timeframe		
		2025-2028	2029-2032	2033-2035
. 7.4.1. Collaborate with technology providers to ensure solutions are tailored to the specific needs of beef and dairy industries.	DA, MLA			
7.4.2. Establish a support network to assist stakeholders in the implementation and scaling of new technologies and practices.	DA, MLA			

Monitoring, evaluation, reporting and improvement (MERI)

Goal: Stronger dairy and beef industries through collaboration and innovation

Objective 7: Through collaborative partnerships, innovation and RDE&A, stakeholders develop sustainable solutions for all calves; empowering dairy farmers to transition away from routine euthanasia of viable calves by providing profitable alternatives that strengthen Australian beef and dairy supply chains.

Strategies	MERI
7.1. Industry and supply chain stakeholders prioritise collaborative approaches to innovation and RDE&A.	a. Joint venture established with RDE&A stakeholders. b. Economic studies conducted for beef-on-dairy market pathways. c. Dedicated resource supported and funded by industry stakeholders to drive roadmap implementation. d. Research conducted into the opportunities for scope 3 emissions. e. Science based protocols developed for sustainable breeding and calf management and rearing. f. Research conducted into optimising cost-efficiency of sexed semen. g. Beef-on-dairy index established and selection tools for herd segmentation developed. h. Research conducted into the eating quality of beef-on-dairy. i. iResearch conducted into cost-effective husbandry and feeding regimes. j. Number of dairy calves entering different market pathways are benchmarked and tracked.
7.2. Pursue funding opportunities that assist dairy farmers in transitioning away from routine euthanasia of viable calves, creating value for beef and dairy supply chains.	a. Funding secured for roadmap implementation including supply chain development, extension and adoption activities. b. Establishment of a Government-led grant program. c. Partnerships to support sustainable beef-on-dairy initiatives.
7.3. Stakeholders support cooperative infrastructure programs, opportunities for cost sharing and joint ventures.	a. Partnerships and joint ventures established. b. Cooperative model developed
7.4. Enhance the capacity of beef and dairy industries to adopt new technologies and practices.	a. Increase in technology utilised to assist decision making and genetic gain.

1800 004 377
enquiries@dairyaustralia.com.au
dairyaustralia.com.au

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