

Dairy Industry Competitiveness

Prepared for Dairy Australia

30 January 2025



A Marsden Jacob Proposal in partnership with Fiona Smith and Farmanco

Prepared for Dairy Australia
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Acknowledgements

Marsden Jacob consulted widely for this report. We would like to acknowledge and thank all the people we engaged with during this project. The report is better for your input. All final recommendations and views in this report are attributable to Marsden Jacob unless otherwise stated.

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Glossary

A

Australian Dairy Farmers (ADF): The peak national advocacy body representing dairy farmers in Australia, focusing on policy and industry-related issues.

Australian Dairy Products Federation (ADPF): The national policy and advocacy body representing the collective views of Australian dairy processors across issues such as trade, environmental sustainability, health and nutrition, and supply chain optimisation.

B

Benchmarking: A process of comparing a farm's performance metrics (e.g., productivity, efficiency) against industry standards or leading practices.

Bobby Calves: Young calves, typically less than 30 days old, that are not reared for replacement or meat production.

Bulk Milk Cell Count (BMCC): A measure of milk quality, indicating the concentration of somatic cells in milk. High BMCC values can lead to issues with processing the milk.

C

Calving Pattern: The planned timing of calving events on a dairy farm to align with feed availability and market demands.

Competitiveness: The ability of a farm or the industry to maintain market share, profitability, and sustainability compared to other producers or countries.

Comparative Analysis: A method of evaluating the performance of one system, region, or farm against another to identify strengths and weaknesses.

Cost of Production: The total expenses incurred to produce a unit of milk, including but not limited to feed, labour, herd and shed.

D

Dairy-Beef: A hybrid farming practice where calves from dairy herds are reared for beef production. Usually the dairy cow is joined to a beef bull producing a first cross (F1) calf.

Dairy Cooperative: A farmer-owned business model that processes and markets milk and dairy products.

Dairy Farm Monitor Project (DFMP): A program that collects and analyses financial and physical performance data from dairy farms in Australia.

Dairy Mandatory Code of Conduct: A regulatory framework designed to ensure fair dealings between dairy farmers and processors in the buying of raw milk.

Development: Activities aimed at improving farm productivity and sustainability through innovation and infrastructure investment.

E

Efficiency: The ability of a farm to maximise output while minimising inputs, such as feed, labour, and water.

Equity Partnerships: A collaborative farming arrangement where multiple parties invest in and share ownership of a farm business.

Extension: Providing education and support to farmers to adopt new practices and technologies.

F

Flat Milk Supply: A consistent milk production pattern throughout the year, designed to meet processing demands and reduce seasonal fluctuations. Achieving flat supply often involves balancing calving patterns and feed availability.

Farm Scale: The size of a farming operation, typically measured in herd size.

Farm System: The structured approach to managing a dairy farm, encompassing feeding, herd management, infrastructure, and environmental practices. It can range from pasture-based systems to intensive systems like Total Mixed Ration (TMR) or Partial Mixed Ration (PMR).

Farm System Efficiency: A measure of how effectively resources (e.g., feed, water) are converted into milk production.

G

Genetically Modified Organisms (GMO): Crops or organisms whose genetic material has been altered to improve traits like yield or resistance to pests.

Greenhouse Gases (GHG): Emissions such as methane and nitrous oxide from farming activities that contribute to climate change.

I

Infrastructure: Physical assets required for farming operations, such as irrigation systems, dairy sheds, and feed pads.

Innovation: The adoption of new methods, ideas, or technologies to improve farm productivity and sustainability.

Inputs: Resources used in production, such as feed, water, and labour.

Intensive Farm Systems: A dairy farming method characterised by high input levels, such as feed and labour, to maximise milk production. Examples include TMR systems or confinement operations where cows are fed mixed rations and housed year-round.

J

Joined Up Manner: A coordinated approach where different stakeholders—farmers, processors, policymakers, and researchers—work together to align objectives, ensuring industry-wide sustainability and profitability.

L

Leasing: An agreement where a farmer rents land for agricultural purposes.

Level Playing Field: Ensuring fairness across regions, sectors, or markets so no party has an unfair advantage.

M

Milk Quality: Attributes of milk that affect its value, including fat content, protein content, and somatic cell count.

Murray Darling Basin (MDB): A significant agricultural region in Australia, supporting irrigation for dairy and other industries.

Murray Darling Basin Plan (MDBP): A policy framework to manage water resources in the MDB sustainably.

N

National Pricing Models: Pricing frameworks that establish consistent retail prices for home brand milk across Australia.

Northern Dairy: In this report refers to Western Australia, NSW and QLD. They have been separated out as they are mostly only supply the domestic milk markets and therefore normally receive a higher milk price than the remaining dairy regions in Australia. They are also smaller (in terms of number of dairy farmers and the amount of milk produced) more isolated dairy regions.

O

Outputs: The measurable products of a dairy farm, such as milk, meat, or calves, resulting from the combination of inputs like feed, water, and labour.

P

Partial Mixed Ration (PMR): A feeding system that combines pasture grazing with supplementary feeding a mixed ration.

Pasture-based System: A dairy farming system relying primarily on grazing pasture for feed.

Peak Season (Pasture Growth): The period when pasture growth is at its maximum, typically during spring in southern Australia, driven by optimal weather conditions for plant growth.

Prime Agricultural Land: High-quality farmland suitable for intensive agricultural production.

Processor: Companies that purchase milk from farmers and process it into dairy products.

Productivity: A measure of output (milk production and livestock sales) relative to input use (e.g. feed, labour, water).

Productivity Index: A ratio that measures the efficiency of converting inputs (like labour, feed, or water) into outputs (e.g., milk), providing insights into farm performance over time.

Profitability Index: A financial metric that evaluates the net income generated by a dairy farm relative to its costs, helping assess the farm's economic viability.

Profitability: The ability of a farm to generate income exceeding its costs. In this report it is also referring to the rate of change in profit.

Q

QDAS: Queensland Dairy Accounting Scheme, which provides financial benchmarking and analysis for dairy farms in Queensland.

R

Regional Development Corporation (RDC): Farmer levy and/or Australian government-funded organisations that support agricultural industries, including dairy, by investing in research, development, and innovation to improve productivity and sustainability.

Regulating: Implementing rules or policies to guide industry practices and ensure compliance.

Regulatory Reforms: Changes to laws or policies aimed at improving industry operations or reducing red tape.

RIC Loan: A concessional loan provided by the Regional Investment Corporation to support farmers with cash flow and resilience-building activities.

Research: Scientific studies aimed at improving dairy production, sustainability, and profitability.

S

Scale Efficiency: The ability of larger farms to operate more cost-effectively due to economies of scale.

Seasonal Calving: A practice where cows calve at a specific time of year to align with pasture growth and feed availability.

Share Farming: A partnership where two parties share farm management responsibilities and profits.

Silo Approach: An isolated way of addressing challenges where different parts of the industry or farm operations act independently rather than collaboratively. Overcoming silos involves integrating systems for better outcomes.

Social License: The public's acceptance and trust in the dairy industry's practices and contributions.

Southern Dairy: In this report refers to the dairy regions in Victoria, South Australia, and Tasmania,

typically reliant on pasture-based systems. These areas have been separated out from the remaining (northern areas) as they are strongly influenced by the international dairy markets which normally sees them receiving a lower milk price than the remaining dairy regions in Australia.

Supply Curve (Milk): The milk production pattern throughout the year.

T

Technical Efficiency: The ability of a dairy farm to maximise output (e.g., milk) using a given set of inputs (e.g., feed, labour) with minimal waste. Farms with high technical efficiency achieve better productivity.

Technological Change: The introduction of new technology to improve productivity or reduce costs. These technologies can include things like new pasture species, fertilisers, genetics, rumination and heat detection collars.

Technology: Tools, equipment, and software used to enhance farm operations. These technologies can include things like new pasture species, fertilisers, genetics, rumination and heat detection collars.

Telehandlers: Versatile machines used on farms for lifting, moving, and stacking materials.

Terms of Trade: The ratio of output prices (e.g., milk and livestock sales) to input costs (e.g., feed, labour).

Terms of Trade Index: A ratio that compares changes in the prices received for milk (output prices) to the prices paid for inputs like feed or labour. An increasing index indicates improved profitability conditions.

Total Factor Productivity Index: A measure of overall productivity, comparing total outputs (milk and other products) to total inputs (feed, labour, water, etc.), capturing improvements from efficiency or technological advancements.

Total Mixed Ration (TMR): A feeding system where all dietary components are mixed and fed to cows in a controlled environment and excludes directly grazing pastures.

V

Value Creation: The process of enhancing the worth of dairy products or by-products throughout the whole supply chain through innovation, improved quality, or better marketing strategies, benefiting both producers and the industry.

Virtual Fencing: A technology that uses GPS and smart collars to control livestock movement without physical barriers, enhancing pasture management and reducing fencing costs.

Year-Round Calving: A calving pattern where cows give birth continuously throughout the year, enabling consistent milk production to meet flat supply demands and processor needs.

1. Executive Summary

Marsden Jacob Associates (Marsden Jacob), in partnership with Fiona Smith and Cam Smith and Tom Farran (Farmanco), are pleased to submit this report to Dairy Australia (DA), in response to the request for proposal to undertake an exploration of the key drivers of competitiveness, productivity and value creation within the Australian dairy industry.

There are concerns the competitiveness of Australian dairy industry has deteriorated over the last decade. This is evidenced by weak productivity performance of dairy farms resulting in an overreliance on terms of trade outcomes to drive farm profitability, rising imports competing for domestic consumers expenditures and rising competitive pressures on exporters.

This study has involved empirical analysis of key competitiveness indicators, eight regional workshops with over 120 total industry participants and a national forum to understand these trends, their drivers and possible solutions. It builds on existing research and insights, including work undertaken in relation to the National Dairy Symposium (March 2024).

Farm profitability has risen in recent years on the back of favourable terms of trade driven by higher international and domestic prices. The vast majority of the rise in farm profits is explained by improvements in the terms of trade. Productivity gains have only had a minor impact on profitability given the underlying weakness in growth. It has been significantly weaker in northern (NSW, Queensland, South Australia and Western Australia) dairy farm systems compared to southern (Murray, South-West Victoria, Gippsland and Tasmania) ones.

The terms of trade are largely beyond the control of dairy farmers. They can shape them to some extent by the volume, quality and timing of milk supplied and by the type of farm system they implement. Similarly, this is the case for processors via the competitive positioning of their products in markets and the efficiency of their processing and supply chains. Nonetheless, prices received and paid by the dairy industry remain inextricably linked to international markets and as an industry and nation there is no intention to limit that connection by reregulating the industry.

Lower long-term growth in productivity represents missed opportunities for the industry. This is because it is a key factor that contributes to profitability which in turn is a wherewithal for future industry growth. Productivity growth is also an important focus because it is something that industry and government can directly influence – more so than the terms of trade. Therefore, it is important to understand what might be driving the relatively weak productivity phenomenon.

Comparative analysis of productivity indicates that a number of key components pertinent to productivity are not contributing growth. Both technological change and farm scale contributions have been flat despite large investments in technology and the increasing scale of farms. And while technical efficiency is relatively high there are some indications it may be weakening in some regions.

Comparative analysis of profitability, terms of trade and productivity highlight some differences between farm systems on how profitability is achieved. There is an increasingly diverse array of farm systems (given the mix of feed systems, calving timings and infrastructure used) as farmers seek competitive advantages, attempt to mitigate risk and respond to market signals and incentives.

There is no one shoe fits all or preferred farm system model. What is increasingly becoming clear is the need for the knowledge, skills and resources to enable farmers to innovate and find businesses and farm systems that can meet their unique needs and fulfil their objectives.

As farm businesses change farm systems, they also do so in response to the needs of processors they supply. The signals and incentives processors provide to dairy farmers can impact on broader industry competitiveness. It is important from a national perspective those signals are clear, so they do not have unintended consequences. For example, in the long term, an overreliance on the terms of trade and a move to higher cost farm systems will not be sustainable without productivity growth as import competition and competition on international export markets rise. It is also important that processors who face international markets clearly signal their needs from farm systems and there are not unnecessary impediments to them finding processing efficiencies and new markets.

Stakeholder consultations have indicated a variety of deeper factors that may be driving the weakening of competitiveness and limiting opportunities for farmers. There does not appear to be one factor, rather a variety of common ones across regions and also some regional specific issues that may be combining together to impact performance.

Stakeholders believe to enhance the competitiveness and productivity of the Australian dairy industry; both the industry and government must address several key areas. Areas for collaboration include better research, development and extension (R, D & E), regulatory reforms, improved perception of the industry, targeted government support, and enhanced education and knowledge-sharing initiatives.

Regulatory Reforms and Policy Adjustments: A variety of regulations were identified by stakeholders as unnecessarily impeding productivity growth. For example, stakeholders believe the dairy industry would benefit from reduced restrictions or revised policies on virtual fencing, genetically modified organisms (GM) regulations, housing (including tenancy laws and barriers to new farm housing), and occupational health and safety (OH&S) requirements for the use of equipment such as telehandlers. They also felt the impacts of renewable energy projects and right to farm issues associated with urban encroachment on agricultural land should be addressed, with a focus on enabling farmers to get on with the business of farming and minimising disruptions for growth. A clear and predictable approach to carbon regulations and consistency in decision-making, including clear timelines and streamlined processes, is essential. A review of the current regulatory burden faced by the industry should be undertaken and opportunities for better regulation reforms be systematically identified and addressed. There is also a concern that over time as State Governments reduce their involvement in extension and R, D & E there is a risk of disconnect from the practicalities of the industry and a risk the impact regulation may not be as well understood.

Research, Development, and Extension (R, D & E): To maximise the available spend and impact of R, D & E initiatives, including that these efforts are effectively demonstrated across dairying regions. Additionally, better understanding of the evolving practices across various regions will help address shifting needs. Targeted education and extension efforts, as well as appropriate benchmarking programs, can be valuable tools in meeting these needs. Strengthening support for agricultural extension services will help maintain a continuous flow of knowledge and provide valuable guidance on transitioning farming systems. The industry should also focus on developing business acumen and skills, alongside improving access to labour, to support the successful application of new research and innovations.

Government Support Innovation: Governments should continue to encourage the adoption of productivity enhancing technologies and infrastructure through appropriate grants and investment allowances. Supporting traineeships, apprenticeships, and RIC (Regional Investment Corporation) loans would further encourage young entrants and investment in skills and capacity in the industry and harness the potential of innovation. Similarly, facilitating industry access to overseas workers is crucial. Stakeholders also believe maintaining tax exemptions related to the transfer of farming land will encourage the next generation of dairy farmers.

Clearer Milk Price Signals and Supply Chain Collaboration: Clearer milk price signals are needed to help dairy farmers make informed investment decisions to drive productivity long term. This is particularly important given the diverse market focus across processors, the regional and individual differences in farm systems and comparative advantages, and the ability for milk to be moved long distances.

Stakeholders believed the dairy industry has significant potential for improved value creation through enhanced collaboration across the supply chain.

- Key to this is the need for collective efforts to reduce transport costs, optimise efficiency and improve infrastructure.
- Monitoring productivity and quality at all levels—particularly on farm—ensures greater consistency and enables real-time adjustments.
- Establishing robust feedback loops and fostering cross-industry collaboration, such as between Dairy Australia and Meat & Livestock Australia, can also support areas like finding opportunities to incorporate beef cattle raising within dairy farm systems. To drive productivity, there must be a continued focus on optimising farm management practices, such as improving pasture, cow health, and genetics, while ensuring all levels of government work together to support these industry changes.

They also believe a critical component of improving industry competitiveness is ensuring appropriate settings so that profits are shared equitably across the supply chain. In their view all stakeholders should get their fair "lick of the ice-cream" – that is pricing outcomes should not be unfairly at the expense of dairy farmers nor processors. Reviewing the Dairy Code of Conduct could help ensure a more balanced financial environment.

Address Gaps in Infrastructure: Stakeholders see a need for a strong advocacy within the industry and government to help address infrastructure gaps and ensure that policies are responsive and fit for purpose. A sound methodology is needed to identify, prioritise and bring forward improved off farm infrastructure (including better telecommunications, roads, and power supply) needed to enable growth in industry productivity. They also recognised the important role governments need to play in strengthening trade agreements and ensuring reliable, affordable power access to enhance industry competitiveness.

Beyond these direct drivers to improve competitiveness, stakeholders also believed there was a need to improve external perceptions of the industry and to move forward as an industry in a more joined up manner.

Improving external perceptions: Stakeholders believe there are further opportunities for all groups (farmers, processors and supply chain) to promote a positive image of the industry in order to attract investment, new entrants, and labour. This includes demonstrating dairy is a viable career choice but also helping to shape perceptions on farm business models so that farm ownership does not need to be seen as required for success. This is also strongly linked to other suggested priorities such as improving RDE outcomes as they will underpin future profitability and shape the story of industry viability. Enabling the next generation of dairy farmers is seen as vital and stakeholders believe there should be a renewed focus on clear succession and transition pathways, including share farming, leasing, and equity partnerships and increased awareness around capital gains tax and stamp duty considerations under each structure.

Take a cohesive industry approach: Stakeholders believe the industry as a whole (farmers, processors and retailers) must take a proactive approach to public consultation on new policies and regulations. They want the industry advocacy to be seen as forward-thinking and positively engaged with government and community on sustainability, regulatory reform, the strategic support for innovation and development and education. As part of this the industry will need to work harder to promote and educate on the social license of dairy farming in communities. The goal of stakeholders is a level playing field across sectors, so the industry can fairly and effectively compete for the use of prime agricultural land and other resources needed to dairy.

Processors and farmers must also work together to effectively promote and educate to build consumer trust and expand market opportunities. This includes improving labelling, maximising both new and existing market avenues and fostering a positive industry culture to attract investment and skilled labour.

A renewed focus on education across the supply chain will further strengthen the industry, alongside leveraging sustainability initiatives as a means of adding value, particularly through initiatives like reducing greenhouse gas emissions and improving animal welfare practices. These combined efforts will assist the Australian dairy industry to remain competitive, resilient and profitable in a rapidly evolving global market.

2. Findings

Recommendations and feedback from the consultation process and dairy industry representatives have been identified to help the industry and government address the issues impacting the dairy industry's competitiveness and productivity. This agenda should be a live and evolving initiative – the issues identified in this study are not straightforward and will not be solved immediately. It is recommended that a Steering Group including Government and Industry representatives be established through which recommendations can be actioned and progress monitored, and an ongoing competitiveness agenda refined.

Table 1: Key findings

Drivers	Barriers	Issues	Recommendations
Government policy & regulation	Restricting farm growth and productivity gains in areas such as homegrown feed and labour efficiency. Adding costs and non-productive compliance demands across the supply chain. Policy changes restricting access to critical inputs like water and new technologies (including virtual fencing and ag vet chemicals and medicines)	Regulations on virtual fencing, genetically modified crops & pasture are limiting productivity. Farmland being lost to urban development, horticulture, forestry, hobby farms and renewable energy projects (solar). Policy changes around water across dairy regions are sapping confidence and deterring many farmers and processors from investing in long term efficiencies Policies on wind farms, solar and tree plantations, including the varied rules pertaining to water and housing for trees versus dairy. Planning regulations and processes are causing challenges around infrastructure development.	1. Enhanced public consultation by both industry and governments to ensure regulation and policy is best fit within and between industries. This could include establishment of a Dairy Regulation Taskforce with representatives across government and the dairy supply chain to comprehensively review the Australian dairy industry's regulatory burden. This would include among others, the long-term impacts of climate, water, planning and energy related policies, across all levels of government. The taskforce would prioritise key challenges, such as access to virtual fencing and gene editing and GMO crops and pasture and implementing meaningful reforms to enhance productivity and growth, including: a) Prioritise a review of the restrictions on virtual fencing to help drive productivity for the entire dairy value chain. b) Review restrictions on GMO to assess whether additional productivity gains could be achieved through revisions, ensuring this considers the impact across all agricultural industries and whole of supply chain. c) Review existing policies around new on-farm housing and tenancy to ensure they are fit for purpose in the agricultural landscape. For example, where the availability of the house is directly linked to ongoing employment on farm. d) Ensure OH & S regulations are tailored, where relevant, to agriculture to reduce the impost on farmers from both a cost and administration perspective. The most recent example is the requirement for farmers to have a crane licence to operate telehandlers above a certain size, where the course takes 3 days and costs \$5,000.

Drivers	Barriers	Issues	Recommendations
		Increased regulations around OH&S across the whole supply chain.	2. Governments to review land use competition impacts on dairy production in their policy decisions to ensure the industry isn't disadvantaged in land use related policy changes. To support this, Government and Industry to undertake detailed regional analysis of land use pressures to identify dairy regions most affected. 3. Governments to provide clarity to industry on their long-term vision for dairy in the Murray Dairy region and how policy settings, including through wider competitive reforms identified in this report, will support future viability and success. 4. Government to ensure there is a level playing field for access to resources. In the case of water, this includes introducing equitable measures such as requiring timber plantations to obtain water licenses in jurisdictions where such regulations are not in place. 5. Government should fully assess the value of water in both agricultural and environmental contexts, recognising its critical role in sustaining productivity and the broader implications of diverting productive water from the system. Government needs to be transparent about how these assessments and decisions are made, including by increasing transparency of environmental water purchases. 6. Industry to take a proactive approach regarding sustainability issues, including emerging environmental issues and carbon regulations to ensure approaches to managing the challenges minimise costs and avoid perverse outcomes.
R, D & E	Analysis of productivity shows that both technological change and farm scale contributions have been flat despite significant investments in technology and the increasing scale of farms. While technical efficiency is relatively high there are some indications it may be weakening in some regions.	Insufficient progress in some R, D & E areas -such as genetic gain in new pasture and forage varieties Long timelines for delivery of R, D & E applications on farm. Gaps in understanding of how R&D can be applied regionally to meet diverse needs and a lack of regionally specific R&D where it is sometimes required. A lack of awareness by many farmers about the value of R,D & E.	7. Secure existing dairy R&D expenditure and continue to explore ways to extend this investment through finding and succeeding in delivering the best projects and leveraging other organisations and their research efforts (e.g. other commodity RDCs and global research). Enhance implementation of R,D & E initiatives ensuring they are regionally applicable and collaborative across industry. 8. Enhance farmer engagement with R, D&E by elevating the profile of and engagement within the dairy industry of R, D&E programs. This includes, but is not limited to increased engagement on R,D&E with Regional Development Programs and State and National Dairy Farmer Organisations. Additionally: a) Industry needs to prioritise building business acumen and skills. b) Industry to encourage knowledge transfer between regions. c) Industry to provide improved assessment and impartial advice on changing farm systems to ensure farmers are aware of the full suite of options.

Drivers	Barriers	Issues	Recommendations
		Insufficient quality service providers to support the implementation and utilisation of technology effectively. Community attitudes towards aspects such as GMO and GHG require careful management.	d) Governments to provide further support for agricultural extension services to address gaps in practice change. 9. The dairy industry to continue partnering with the beef industry to develop a sustainable and profitable value chain for surplus dairy calves. DA and MLA have already made significant progress on achieving this objective. 10. Industry to encourage knowledge transfer from overseas. Government and industry to consider prospective Memoranda of Understanding with leading international research partners. 11. Enhance DAFF involvement with the Dairy Moving Forward initiative and direct visibility of R,D&E and develop greater insight into how regulatory barriers can hinder the adoption and application of R,D&E, such as the lack of regulation for methane inhibitors and restrictions on virtual fencing outside Tasmania.
Milk price signals & supply chain collaboration	The signals and incentives processors provide to dairy farmers can impact broader industry competitiveness. Where terms of trade have been positive, we have typically seen weaker productivity growth. Processor efforts to flatten milk supply to meet their requirements is impacting on farm productivity and profitability.	Milk prices directly influence farm viability. Rising costs are making it harder to maintain profitability. Shift in corporate structures (e.g. fewer domestic cooperatives and increased international ownership) is contributing to changing processing priorities. There is an inherent higher cost of production to achieve a flat milk supply which can impact on competitiveness in long term if there is insufficient growth in productivity. A contracting milk pool can impact on Australia's global competitiveness in the long term if the processing capacity shrinks to a point where it does not support seasonal dairy products like cheese and powders (e.g.: Queensland and WA limitations)	12. Government to review the Dairy Industry Code to ensure it is fit for purpose, promoting a more balanced financial environment and enhancing feedback mechanisms to support stronger industry collaboration. 13. Following the completion of the 2024-25 Supermarkets Inquiry by the ACCC, Government should continue to monitor supermarket retail pricing impacts to ensure supermarkets are acting appropriately within the dairy supply chain and in the setting of prices. 14. Processors to provide clearer price signals of their needs from farm systems and their required product mixes. Government to consider whether this could be supported by developing southern milk indices. 15. Ensure farmers and processors have access to reliable and affordable energy, with support, investment and incentives to processors to remain viable and ensure best practice in energy and transport efficiency. 16. Government and industry to focus on strategies to strengthen existing trade agreements, particularly in cases like Japan where competitor countries have secured more favourable bilateral trading arrangements. 17. Industry to work harder to promote and educate on the social license of dairy farming in communities. Processors, farmers, government, retailers, banks, Dairy Australia and representative groups all need to play a part. Industry to work with government to demonstrate and improve sustainability credentials to access markets.

Drivers	Barriers	Issues	Recommendations
		Long term contracts provide certainty to enable businesses to make strategic decisions and drive improved productivity. External factors, such as imports and global price disparities, affect the Australian market and profitability across all levels of the supply chain. A growing disconnect between Australian farm gate milk prices with the global market and our competitors.	
Farm System & supply chain productivity	Productivity has been weak across Australia. Given terms of trade are largely beyond the control of farmers and variable, they must target productivity growth to achieve long term profitability. There is an increasingly diverse array of farm systems as farmers seek competitive advantages, try to mitigate risk and respond to market signals and incentives. Social licence has and will continue to impact productivity and profitability across the supply chain, with increasing expectations around animal welfare, including bobby calves and the current and proposed changes around GHG.	Climatic variability is forcing system change on farm where the skillset required is not always in place to achieve productivity gains. Increasing geographical spread is impacting costs and efficiency. A shrinking industry is leading to inefficiencies across the supply chain, including through reduced processing plant utilisation rates, increased transport costs and a reduced pool of service providers required to provide specialist advice and ensure effective implementation of technology. Aging infrastructure and capacity limitations are causing issues around the availability, reliability and cost of items such as water, power, transport and telecommunications.	18. Ongoing collective effort is required to reduce transport costs, optimise efficiency and improve infrastructure. - Government and industry to prioritise infrastructure investment to address deficiencies in telecommunications, roads, power supply. These include better access to 5G, bridge and road infrastructure needed to meet NHVR requirements, improve road quality to reduce vehicle depreciation and mitigate climate risks. - Government to encourage adoption of productivity enhancing technologies and infrastructure through appropriate grants and incentives – i.e help enable the remote monitoring of the quality and quantity of milk in on-farm vats by processors to improve efficiencies. - Dairy processors to continue to review, educate and co-ordinate efforts to utilise collective transport assets and collaborating on optimising milk pick-ups to help improve overall productivity of industry - Support transition to bigger vats & vat monitoring on farm (determine quality & flow).

Drivers	Barriers	Issues	Recommendations
Labour & education	Reduced productivity across the supply chain due to the lack of new and skilled labour. The aging demographic and skills shortage results in reduced uptake of technology or lack of effective implementation of technology.	Shortage in skilled labour across the supply chain. Higher direct & non-direct costs (on-farm housing). Lack of new entrants to the industry. Limiting implementation of new and existing technologies. Lack of clear pathways for succession & transition. Long lead times in processing overseas labour visa applications Ongoing access to capital and tax concerns that arise during succession & transition.	19. Industry to promote a positive image to attract labour and show it is a viable career choice and shape perceptions that ownership is not the only path to success. 20. Governments to consider regional exemptions for younger driving ages, to unlock the capacity of 16-18 year olds to work on dairy farms. 21. Governments to support traineeships, apprenticeships, and Regional Investment Corporation loans to encourage young entrants and investment in skills and capacity in the industry and harness the potential of innovation. This includes improved skill transfers within the service sector and accessing of these skills remotely to ensure effective implementation of technology. 22. Governments to maintain tax exemptions related to the transfer of farming land. 23. Government to ensure current migration system reforms reduce the cost, time and complexity for applicants and enhance the dairy industry's ability to secure the skills it needs. In addition: a) Government to measure and assess contribution of regional focused visas, including the working holiday visa, to the dairy industry labour pool, and ensure any reforms do not compromise on the industry's ability to secure skilled workers. b) Government to consider introducing a migration concierge service to provide information and guidance on applications for farmers/employers. 24. Industry and government to ensure appropriate prioritisation is given to R,D&E investments that seek to improve labour efficiencies on farm. 25. Ensure improvements in telecommunications infrastructure enable specialist farm advisory and next generation farm technologies to be supported remotely. 26. Enhance pathways for succession/transition. This should include: a) a focus on knowledge sharing across the industry and linking landowners with those who want to run the operational dairy business. b) continued exemptions and better understanding across industry around capital gains tax and stamp duty implications. c) provide clear guidance and improved industry knowledge of the available business structures to achieve succession and transition – equity partnerships, share farming, leasing, managing.

3. Introduction

Dairy Australia (DA) engaged Marsden Jacobs, Fiona Smith and Farmanco to undertake workshops and supporting analysis to explore the key drivers of productivity, competitiveness and value creation to support a profitable Australian dairy industry at a regional and national level.

3.1 Background

In March 2024, participants across the dairy industry gathered for the National Dairy Symposium to discuss key issues and opportunities across the supply chain that are impacting the future of Australian dairy. Participants were generally in agreement that there are challenges relating to profitable growth. As a result, The Australian Government provided Dairy Australia with funding to deliver a series of industry workshops addressing these issues.

The intent of the eight workshops was to gather regional perspectives on the key drivers that enhance industry competitiveness and productivity across the supply chain and bring these to a national forum to identify commonalities across regions. The outputs and insights from the workshops have been complemented by productivity analysis to provide recommendations to the Minister for Agriculture, Fisheries and Forestry on how government and industry can partner to enhance Australia's dairy productivity, competitiveness, and value-creation.

3.1.1 Our understanding of Australia's Dairy productivity and competitiveness

Australian dairy industry competitiveness is a continuous endeavour. Competition occurs at many layers – between the dairy industry and other sectors, between farmers, between processors, domestically and internationally. Competition occurs not just in what the industry produces but also in the inputs that are used.

Competitiveness is doing as well as, if not better than your competitors. Remaining competitive is essential to the ongoing success of the industry. There are many ways this competitiveness can be measured.

In the long run three key indicators are important:-

- Profitability – the rate of change in profit.
- Productivity – how much output can be produced with given inputs.
- Terms of trade – the relative prices received for output compared to those paid for inputs.

These indicators are closely linked – profitability is the product of productivity and the terms of trade. There are also other indicators such as the volume and quality of milk output and trade volumes and their direction.

Recent data indicates that at the farm level -:

- profitability has been rising - driven by improvement in the terms of trade.
- productivity growth has been flat.
- overall milk output has been falling.
- significant exit of farmers.

Two major trends have also been observed in industry trade patterns -:

- more milk is moving from processing for the export market to processing for domestic consumption - with large outflows from Victoria to NSW and Queensland which can impact on export competitiveness.
- a substantial rise in dairy product imports from other countries.

Some of these trends have become a cause of concern for industry.

The Dairy Australia in-focus data from 2013/14 shows there were 6,308 farms, with a national herd of 1.65 million producing a total of 9,421 million litres of milk at an average of 5,615 litres per cow. Australia produced 311,458 tonnes of cheese, 337,286 tonnes of milk powder and 101,705 tonnes of butter.

The In-focus report for 2023/24 demonstrates the decline in the Australian dairy industry with 8,376 million litres of milk produced with the average annual production per cow of 6,443 litres. Farm numbers have dropped to 3,889 and the national herd now sits at 1.33 million cows with an average herd size of 342 cows and an industry workforce of 31,300. Australia produced 361,516 tonnes of cheese, 180,272 tonnes of milk powder and 67,775 tonnes of butter.

Farm sector competitiveness has weakened

The performance of dairy farm businesses varies considerably across Australia. Using Dairy Farm Monitor Program (DFMP) data it is clear that there are significant regional differences in dairy farm profitability and its drivers. DFMP provides a comprehensive physical and financial analysis of around 250 dairy farms across Australia, representing a distribution of farm size, herd size, farming system and geographical location. The DFMP/QDAS data goes through a complex validation process to ensure the accuracy of the data which supports the use of this information as the best available information relating to dairy farm business performance in this report.

Concerns were raised during the workshops that the DFMP/QDAS data is not a true representation of the average in a region or state. As the DFMP data relates to around 250 dairy farms across Australia it is a subset of actual average performance but a robust subset. The only other set of industry data that is collected is the ABARES data. The process of data collection through ABARES does not follow the same stringent process of DFMP/QDAS and does not go through a complex validation process to ensure data accuracy, which supports the use of DFMP/QDAS data for this report. Further to that, some work was done comparing the DFMP data to ABARES which showed that DFMP had similar results to a stratified sample of ABARES data.

Farms in southern Australia, which have more comparative advantages with a favourable temperate climate and high rainfall and/or access to irrigation, are stronger performers on key competitiveness indicators. Southern farm systems have higher profit and higher productivity. Northern systems including (Queensland, northern New South Wales and Western Australia) while weaker on both, have higher terms of trade as processors pay premiums to source local milk for domestic consumption in those regions (Figure 3).

Figure 1: Profitability index – 2013/14 to 2022/23

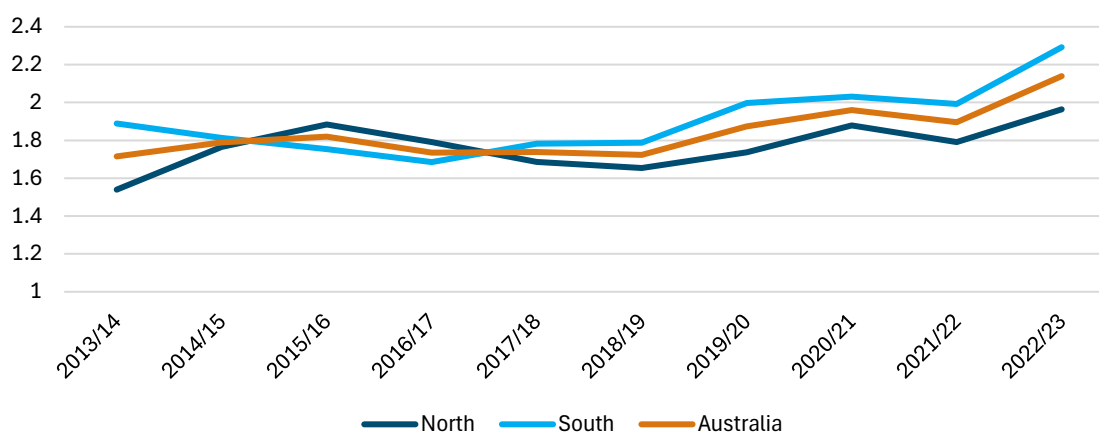


Figure 2: Productivity index – 2013/14 to 2022/23

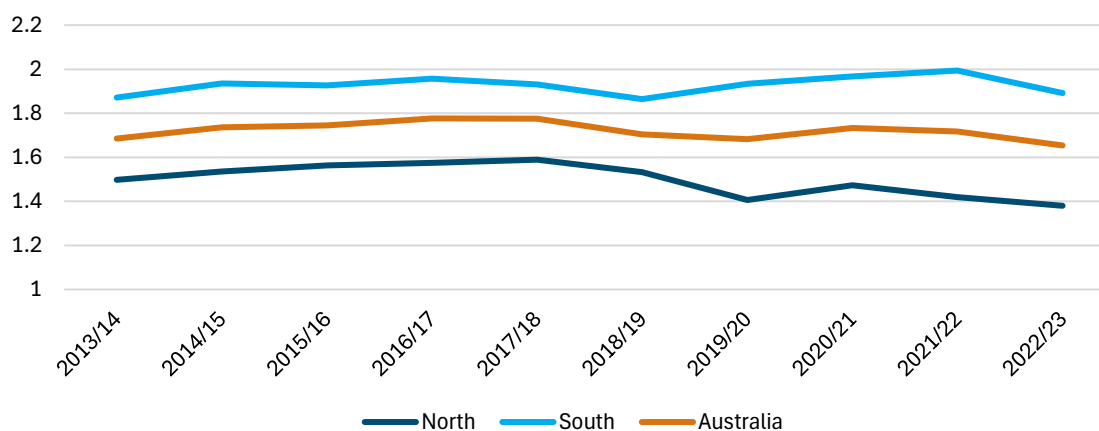
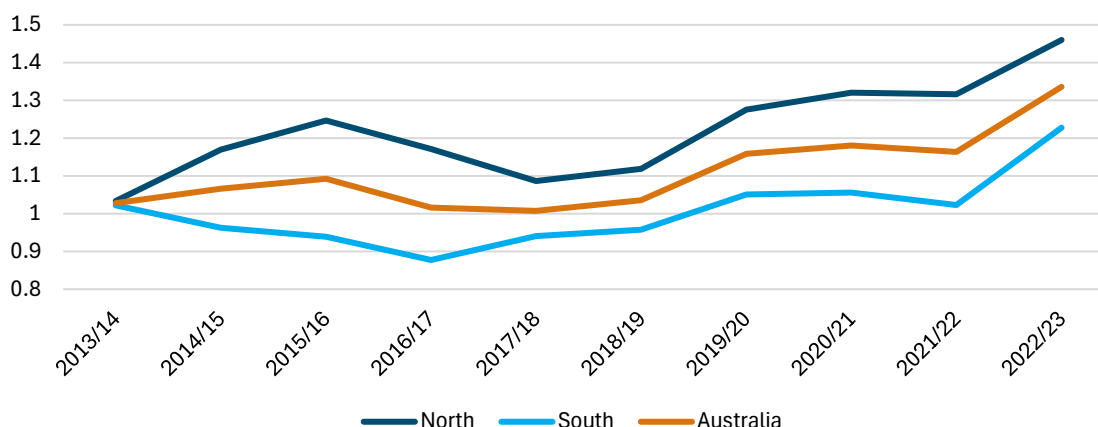


Figure 3: Terms of trade index – 2013/14 to 2022/23



Terms of trade for farmers have risen markedly since late 2010's and this trend has largely driven the improvements in profitability. However, productivity growth across the board has been weak. Though still modest, productivity growth has been better in Tasmania and to a lesser extent in the more predominantly rainfall pasture-based systems in Gippsland and South-West Victoria.

Weak productivity at the same time as strong terms of trade is not an unusual phenomenon and is observed in other industries. This occurs as producers 'take the foot off the accelerator' pushing their inputs harder because prices can 'do the lifting'. It is also likely that as higher profits are pursued through the terms of trade they can come at the expense of thinner margins and weaker productivity because comparative technical advantages in the farm system fall. Indeed, consultation with farmers indicated this was occurring to some extent. Particularly given the context of the previous period of weak terms of trade, from which they were recovering.

Nonetheless, weak productivity growth has been observable since at least the early 2000s. As when terms of trade have weakened productivity has not risen substantively to shore up profitability. The long-term weakness in productivity has been a missed opportunity for the industry. It represents foregone profit that could have gone toward rewarding resilience and funding future farm innovation to help future proof businesses and may have contributed a shrinking of the industry.

During our consultations some segments of the industry raised concerns that the average cost of farm production has risen, and this can weaken industry competitiveness. Rising costs of production can be driven by a variety of factors such as changes in farm systems (e.g. intensification that require the use of higher inputs quantities) or when the prices of inputs rise or more expensive inputs are required. Consequently, costs of production have close relationships to the terms of trade and productivity. Rising trends in costs of production can be a concern when productivity is weak. This is because farm system costs are then largely driven by the terms of trade which are increasingly becoming more volatile and farmers have less control over.

Why has farm productivity been weak?

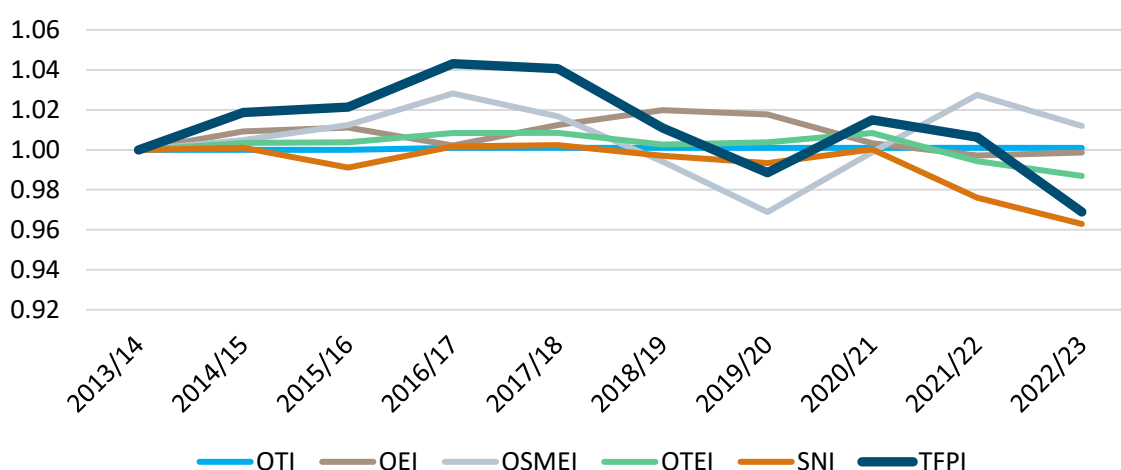
Relatively weak farm productivity has been driven by a number of factors. These include -:

- technological change is not improving growth in productivity.
- increases in farm scale are not improving growth in productivity.

These factors also appear to be driving weak productivity growth in the New Zealand industry as well. However, the underlying reasons why these factors are driving the weakness in productivity is not well understood. For example, technological change is not improving the growth of productivity - Is this because of gaps in R, D & E provision and/or impediments to implementing the R, D & E? The consultation with the industry has sought to improve this understanding.

Nonetheless, overall productivity growth is supported by successful farmers remaining farming. That is, as weaker and poorer performing farms exit, generally more productive farms remain. This is borne out in productivity analysis which shows that dairy farmers are highly technically efficient. For given technologies they perform well against their peers. It is also clear that farmers tend to do well at balancing the mix of inputs they use.

Figure 4: Total Factor Productivity Index by SFA component, Australia – 2013/14 to 2022/23



There was a perception in some regions that environmental impacts were becoming more of a factor over time as extreme events impact production. Our experience and consultations indicate this appears to be more of the case in Northern Victoria, New South Wales and Queensland. This also aligns with changes in farm systems and scale that in some circumstances can make them more vulnerable to climate extremes. While there is some evidence of this regionally it is not a major explanatory factor in the data based on the analysis undertaken.

These factors did not seem surprising to the dairy industry stakeholders consulted. This does not mean larger farms with improved technology are not more profitable – they can be. Over the long term the sources of profit in these businesses appear to be coming in part from improvements in their terms of trade relative to other farmers – where larger intensive farm systems receive higher

milk prices for supplying larger more consistent volumes of higher quality. This milk inevitably is sourced for domestic consumption.

Being larger and more intensive does not translate into higher productivity. Practical farm management considerations such as walking distances, impacts on grazed diets for example, labour availability and skills become more important. For example, productivity does not correlate well with some indicators of partial farm performance.

Figure 5: Scale efficiency, inputs– by State

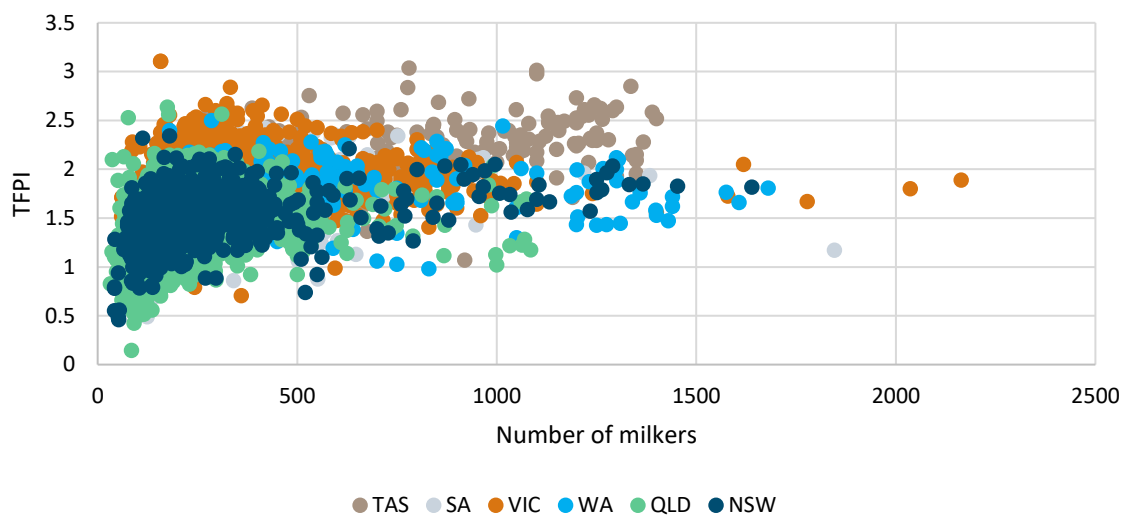
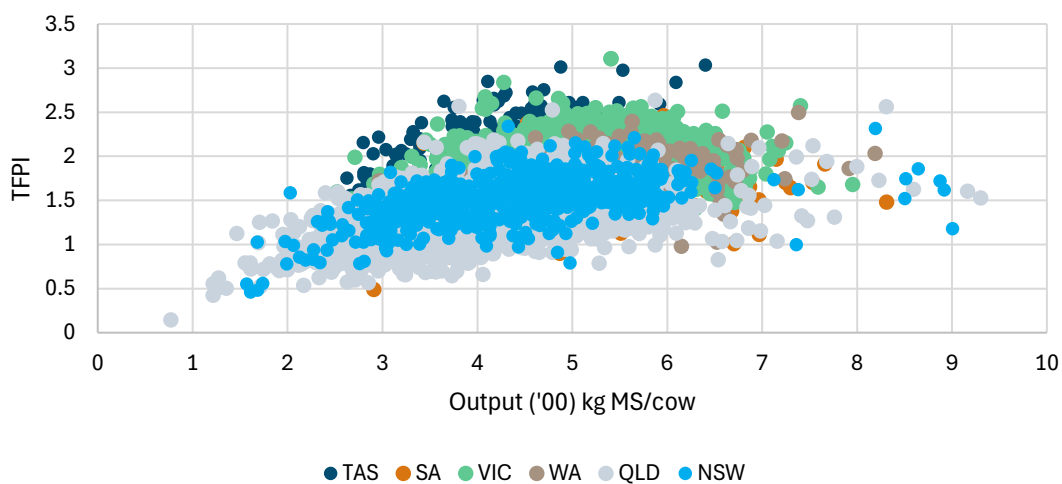


Figure 6: Scale efficiency, outputs – by State



There is also some evidence that processor efforts to flatten the milk supply may be impacting productivity growth.

Historically, Australia's milk supply was more seasonal reflecting the seasonality of feed production in the southern dairy system. It also reflected dairy processing structures and output where the major

processor was farmer owned and its processing strategies and incentives more strongly reflected farmer owner priorities. Over time this has shifted for a variety of reasons.

- Domestic demand has risen and overall milk output has fallen meaning there is more demand for year round supply to meet domestic processing needs.
- The composition of dairy manufacturing products has changed which favour year-round supply and there has been a significant rise in cheese production and a fall in ingredients such as powders.
- The structure of the processing sector has changed – for example Australia’s major dairy cooperative Murray Goulburn failed and is now privately owned, a significant proportion of the processing sector is owned by major multi-national companies and there are supermarkets and more smaller processors competing for milk supply for the domestic market.
- Practical farm management considerations such as the complexity of getting the entire herd into calf at the same time arguably accelerated the flattening of supply curve.

Incentives farmers receive to flatten their supply curve aim to compensate them for the higher costs of production involved in year-round supply. By implication this raises the terms of trade but also implies potential weakness in productivity. Both these factors can be seen in Gippsland in the graphs below (see Figure 7 and Figure 8). Year-round supply can have some upsides for productivity if favourable conditions prevail outside of the seasonal peak they would not otherwise be fully captured under seasonal supply. But from a risk perspective it also creates vulnerabilities when conditions outside of peak season are unfavourable.

Figure 7: Gippsland – Terms of trade by calving pattern

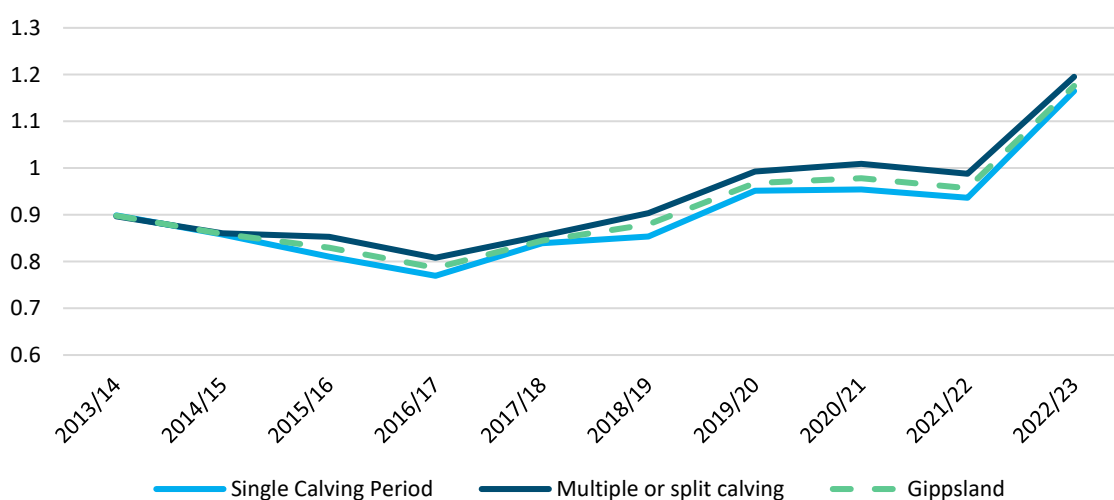
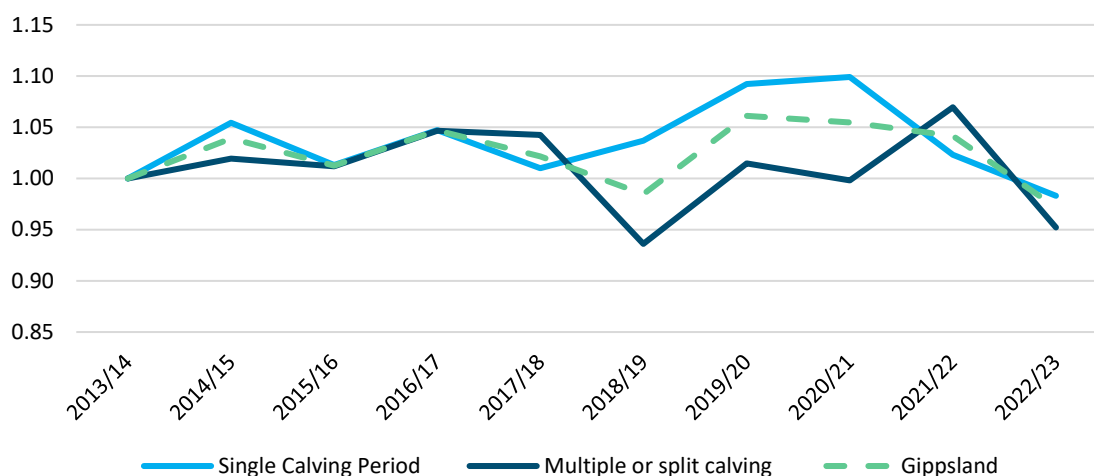


Figure 8: Gippsland – Total factor productivity by calving pattern



This exposure to higher risk has other dimensions as well when terms of trade is the major driver of profitability within a flat milk supply. As farms intensify, their average cost of production rises. This makes those processors and farms more at risk to the threat of external competition. This has essentially been the challenge faced by northern regions that face supply competition from southern Australia. It is also the case for Australian processors and farmers facing import competition from overseas processors. A key insurance against these risks is finding ways to boost productivity growth over the longer term.

There are significant differences in the absolute level of productivity of the growth of productivity and its drivers across regions. For example, Gippsland has higher absolute levels of productivity than Northern Victoria (Figure 9). In part, this reflects relative comparative advantages in perennial pasture based systems due to more favourable operating conditions. The relative growth in productivity over time has been better in Gippsland than Northern Victoria where it has weakened more significantly. The technological change and environmental conditions contribution productivity growth has been more volatile and weaker in Northern Victoria than compared to Gippsland. In part this is likely reflected in changing operating conditions and design of farm systems in response to changes in water availability. An important consideration going forward for Northern Victoria will be improving technological and farm system responses to future water availability scenarios and improving certainty for farmers to embed new advances into those systems.

Figure 9: Productivity comparison – Gippsland and Northern Victoria



Note: The legend applies to both graphs

4. Approach and methodology

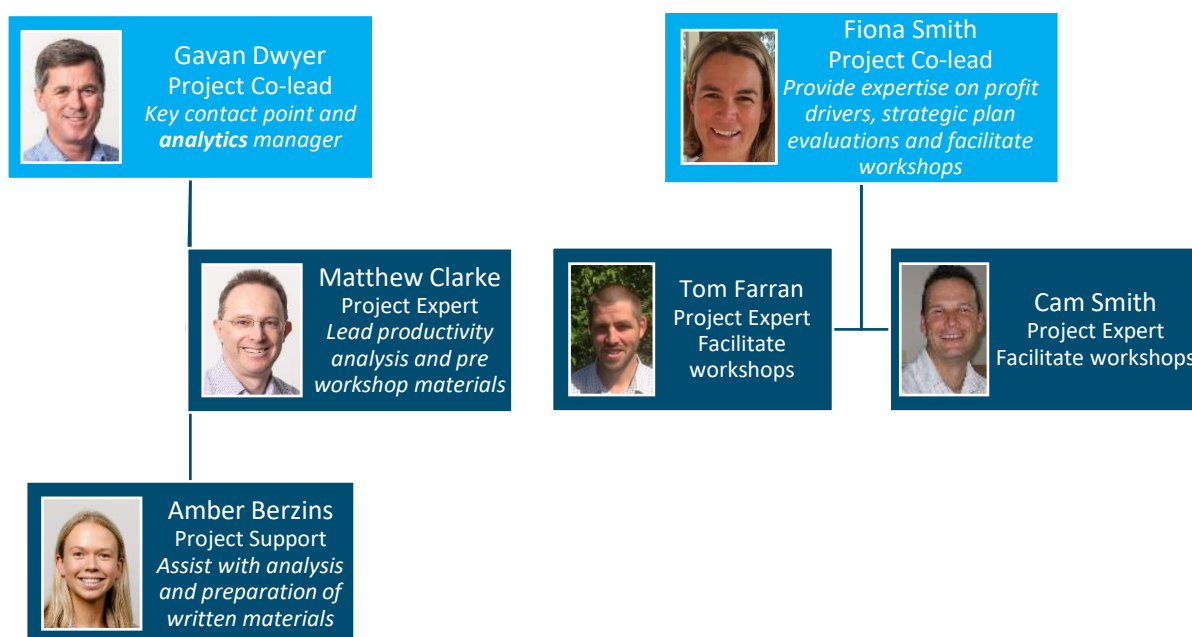
This section details the approach and methodology utilised by the project team.

We assembled an expert high-level team to deliver this assignment. Gavan Dwyer led the team with the analytical expertise of Matthew Clarke, the industry and consultation expertise of Fiona Smith, Cam Smith and Tom Farran, and assisted by Amber Berzins, with additional priority actions developed by the steering committee as a result of the consultations and report. Our team has extensive relevant experience including in:

- Delivery of workshops and consultation with stakeholders
- Analysis of the dairy and other agricultural sectors
- Modelling and analysis of productivity drivers and farm performance

Our project team structure, led by Gavan Dwyer and Fiona Smith, is illustrated in Figure 10.

Figure 10: Project team governance



Our methodology for delivering this program is summarised in .

Figure 11 and explained in further detail in subsequent numbered sections.

Figure 11: High level project approach

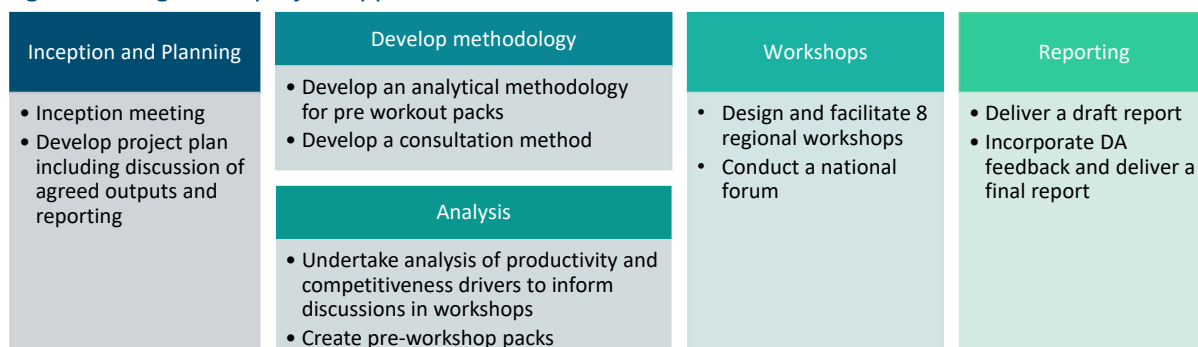
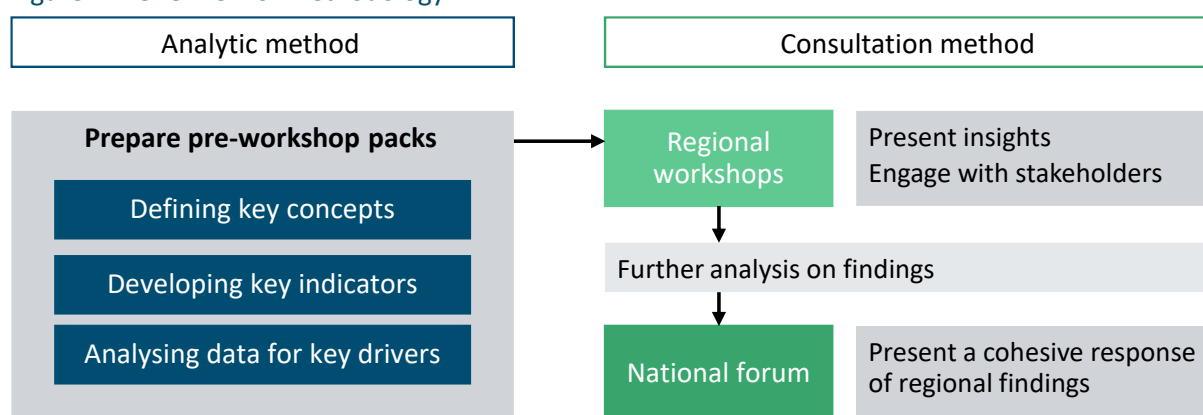


Figure 12: Overview of methodology



4.1 Prepacks

The analytical method formed the basis for the pre-workshop packs that were utilised to support the regional workshops. The input and analysis were used to help inform workshop participants and draw their views on the trends in and drivers of productivity competitiveness and the value proposition. This analysis provided an evidence-based proposition for participants to consider in relation to national and regional trends in the Australian dairy industry.

The pre-packs explored regional productivity, profitability, competitiveness and drivers of value.

Participants were provided a survey with the prepack enabling them to consider key items prior to the workshop and help tailor the discussions of the smaller workshop groups. An example of the pre-pack information sent out has been included as an attached appendix to this document.

The analytical approach included:

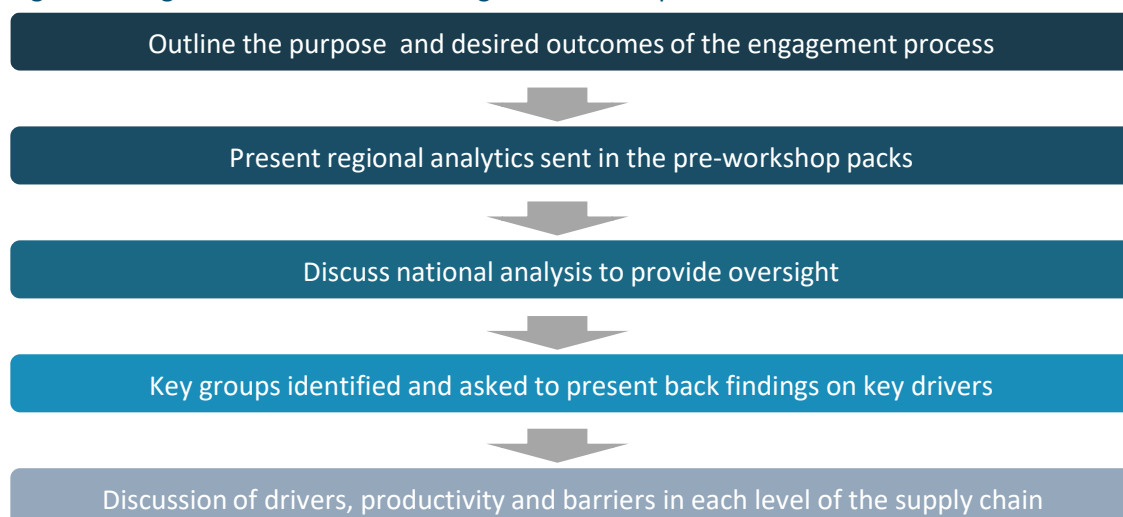
- Defining concepts and key data.
- Demonstrating key indicators.
- Analysing data for key drivers.
- Presenting insights and analysis to help inform the workshop discussions.

4.2 Regional workshops

Regional workshops were conducted across the eight dairy regions of Australia.

A high-level overview of the structure of the regional workshops is illustrated below (Figure 13).

Figure 13: High level structure of the regional workshops



The first section of the regional workshops worked through the information provided in the participant prepacks. This included an outline the purpose of the project and the desired outcomes from the workshops and the engagement process being followed.

The presentation outlined the initial findings from the analysis exploring regional productivity, profitability, competitiveness and drivers of value. There was also a link back to the national analysis to provide oversight for each region, with a Northern and Southern region also used within the analysis. The Southern region was based on the DFMP data for Victoria, Tasmania and South Australia, whilst the Northern region was based on the DFMP data for New South Wales, Queensland and Western Australia.

Whilst the workshops covered some analysis around regional output and supply chain performance and import trends for dairy products into Australia, the focus was otherwise on the productivity and profitability drivers at the farm gate. Whilst the preference would have been to provide this data at a processor level, this was not possible based on the data available to the project team.

The key questions asked of participants at the workshops were:

1. In relation to competitiveness what are the major pressures for the dairy industry in your region?
2. In relation to productivity for the dairy industry in your region:
 - a) What do you consider are the major drivers of productivity?
 - b) Given that nationally productivity has been generally flat over the past decade, what do you consider are the barriers that have led to flat productivity?

3. What do you consider are the major drivers of value creation in your region?

To ensure all stakeholders had an opportunity to contribute to the discussion and outcomes, participants at the workshops were broken into three key groups to discuss the drivers that enhance productivity and competitiveness at their level of the supply chain. The participants were separated into farm owner/operators, service providers at the farmgate level which included banks and accountants, and processors with no retailers present at the regional workshops. Each group was tasked with outlining what they believe to be the key drivers and barriers at their level of the supply chain.

Each group was asked to present back to the wider workshop on the key drivers and barriers they had outlined with the combined group having the opportunity to prioritise each of the drivers and barriers. The wider group was then asked what they believed industry and government could do to assist or facilitate improved competitiveness, productivity and value chain creation for the three key priorities outlined across each area.

4.3 National Forum

The collective findings from the analytical method and the key findings from the regional meetings were presented at the Nation Forum. The forum outlined the current drivers of productivity and competitiveness in the Australian dairy industry and detailed the key areas for collaboration across the supply chain to achieve overall viability of the industry at all levels.

Figure 14: National forum agenda

Item 1: Summary

We began with a summary of the analytical work completed covering both the national and regional results at each level of the supply chain

Item 2: Recommendations

Secondly, we addressed the findings from each of the regional workshops outlining the recommendations from each region about how they propose to achieve long-term whole of industry viability whilst outlining the main barriers to achieving this that were identified for each region. This included the common factors identified in every region whilst identifying the differences across Australia. A panel of involved participants reinforced those recommendations.

Item 3: Next steps

The final section of the national forum focused on the key next steps identified out of the project and a summary of the key recommendations for the industry moving forward.

5. National and regional trends

This section outlines the national and regional trends in competitiveness, productivity and across the value chain in the Australian dairy industry.

5.1 Competitiveness and productivity

5.1.1 Major pressures to competitiveness and productivity

Participants were asked what they considered the major pressures to competitiveness were in their region, which was generally based on their state, or for Victoria was divided into either Gippsland, South-West Victoria or Northern Victoria, which also included the southern Riverina. They were asked to consider this from an international, domestic, regional, farm system and/or other industry perspective. They were also asked to identify the main drivers of productivity and main barriers to productivity in their region.

There were some consistent themes that came out across the regional workshops with many pressures to competitiveness and productivity being consistent from a national perspective, whilst still having some regional specificities among each area.

Whilst most of the areas outlined below were raised at the majority of the regional workshops the level of priority assigned to each varied across the regions. For example, government policy and regulation, land use competition and labour all ranked highly in the majority of regions, whereas access to and the availability of water was only ranked in the top three issues in Northern Victoria despite being raised as a barrier to competitiveness in a number of other regions.

Below is a summary of the key pressures to competitiveness and productivity outlined consistently across the regional workshops.

1. Research, Development and Extension

- Money not always being utilised effectively to deliver productivity gains on farm or through the supply chain and concern that there is a shrinking pool of funds being allocated to R, D & E
- Often research needs to be more regionally specific due to factors such as climate, soil types, farm systems.
- Long timelines – It takes a long time from when the research concept is developed to when the research is delivered.
- Early adopters of research and development are sometimes advantaged by being able to make the most of it sooner but sometimes are disadvantaged due to it needing further development and refining. This can be further exacerbated if there is insufficient skillset or funding allocated for delivery of key R, D & E projects.
- Community attitudes to some of the more controversial areas such as GMO and GHG.

- Quality of service providers for implementation. Most new research and technologies need ongoing support for effective adoption.

2. Government Policy and Regulation

- Policy differences between jurisdictions impacting farm efficiency and market competition. e.g. freight subsidies and government funding provided to NSW drought affected farmers had the consequence of increasing the price of fodder in neighbouring regions not receiving the subsidy.
- Red Tape & Compliance: Regulations impacting on farm productivity and preventing uptake of key technologies that could be beneficial on farms. e.g. the requirement that farms with telehandlers above a certain size must ensure that all staff using the equipment have undergone crane training which has a significant time and cost impost to the business.
- Planning Rules: Challenges around infrastructure development in areas such as housing and on-farm developments.
- Research and development: Some stakeholders believe the spend in dairy farm R, D & E has not always been utilised effectively and productivity gains are not as forthcoming from those changes as might have been hoped. This included concerns that a 'silo' approach is often used where research looks at a niche factor without understanding how it impacts the whole business. Overall, there is a need to maximise the available spend on R, D & E, find the best projects and drive successful delivery and implementation on farm.
- Virtual Fencing: Use of this technology in Tasmania provides this region with a competitive advantage around homegrown feed and labour efficiency that is not currently available in other states.
- GM regulations: Restrictions around genetically modified crops and pasture, in particular ryegrass. This is holding back productivity improvements and is also providing a competitive advantage to those states who can use these technologies.
- Renewable Energy Development: Policies on wind farms, solar, and tree planting that are disadvantageous to dairy farmers and processors. Exclusion zones in some circumstances are restricting the growth of existing dairy farms from both a land perspective but also hindering their ability to put in new staff accommodation to enable them to grow.
- OH&S: Increasing regulation around OH&S across the whole supply chain is adding to the costs of doing business. The farming sector rarely has the specific skillset to manage these changes effectively and they are spending an increasing amount of time on compliance paperwork that impacts their productivity elsewhere.

3. Milk Price & Milk price signals

- Impact on sustainability: Milk prices directly influence farm viability. Rising costs are making it harder to maintain profitability.

- Out of season milk: There is a higher cost of production to produce flat milk. Farmers questioning whether this is the best option for them and the wider long-term viability of the industry.
- Long-term contracts: The effect of long-term contracts on decision-making for farmers. They provide certainty to enable farmers to make strategic decisions in their business and drive for improved productivity.
- Market dynamics: External factors, such as imports and global price disparities, affect the Australian market and profitability across all levels of the supply chain.

4. Labour

- Labour shortages: The dairy industry faces difficulties in sourcing skilled workers across the whole supply chain. This reflects regional competition from other industries and shortages in regional communities for the skills required, challenges attracting workers to regions and difficulties sources international labour through visa programs.
- Retention and innovation: Need for innovative solutions to attract and retain workers. Not only through increased wages but the increasing requirement to provide housing on farm for all staff.
- Lack of new and young entrants: There is a shrinking pool of new entrants across the whole supply chain.
- Technology and training: Limited technician availability hampers effective use of new technologies.

5. Succession and Transition

- Asset and knowledge transfer: Challenges with transferring both assets and knowledge to the next generation.
- Clear pathways: Industry needs to clearly define the pathways into dairy that cater not only for family members but also non-family succession/transition and commercial investors. This included comparisons to NZ where it is much clearer to transition from lower order sharefarmers or contract milkers to land ownership, whereas Australian laws can limit some of these pathways, particularly for the contract milker option.
- Capital access: Family farms struggle with accessing capital for succession or selling to non-family members.
- Tax concerns: Issues around stamp duty, capital gains tax, and how these affect transitions. There needs to be clearer guidance at an industry level around how these transitions can be achieved in the most cost-efficient manner.

6. Productivity & Farm System Efficiency

- System limitations: Farmers feel as though they are encouraged or forced into systems due to climatic variability and climatic extremes and the flow on impacts on productivity and profitability. Partial Mixed Ration (PMR) farms are caught between pasture management and

Total Mixed Ration (TMR), unable to maximise either pasture or TMR and having the costs of running both systems.

- Cost Pressures: Milk payment systems (flat milk) may be creating inefficiencies on farm and driving up cost of production.
- Animal and plant genetics: Issues with animal fertility and maximising genetic gain for better productivity. Effective use of plant species to maximise homegrown feed for direct grazing and improved productivity in intensive systems.
- Management Practices: Better use of R, D & E to improve productivity and farmers also taking ownership of what is in their control. The push for improved work-life balance in farming is also likely having a negative impact on overall productivity.
- Coastal Farms: Farms in coastal areas struggle with inefficiency due to land prices and layout, largely for New South Wales, Queensland and Western Australia.

7. Social Licence to Farm

- Environmental Expectations: Growing pressure to balance farming with environmental stewardship. This is likely to increase the cost of producing the milk but may not result in a higher milk price to compensate for the higher costs.
- Costs: Sustainability regulations are already or are likely to increase costs across the supply chain, particularly regarding greenhouse gas emissions (GHG) and animal welfare issues such as the retention of bobby calves.
- Animal Welfare:
 - Issues like calf rearing, stock transport, and dairy beef markets.
 - Public perceptions of farming practices (e.g., cow housing and bobby calves).
 - Lack of alternative livestock markets to enable dairy farmers to cost effectively manage these issues.
- Greenhouse Gas (GHG) Emissions: Growing pressure on the agricultural sector to reduce greenhouse gas emissions, which may require investment in new technologies or processes that increase costs. Whilst NZ and EU are increasing regulations which may be providing an advantage to them in some areas this may prove to be a hindrance in the future that needs to be considered.
- Market Pressures:
 - Rising demands for sustainable farming practices, including animal welfare and land management, add pressure on dairy farmers and the supply chain in general to adapt and invest in sustainable systems.
 - Consumer willingness to pay higher prices for environmentally friendly products and animal welfare standards is not yet tested or proven.

8. Land Use Competition

- Urban sprawl and other Industries: Farmland being lost to urban development, horticulture, forestry, and renewable energy projects (solar).
- Capital access: Rising land costs and difficulties accessing capital make it harder for newcomers, growth of existing operations and succession planning.
- Impacts of farm size: Parcels of land are getting bigger, so it is harder to expand or get into the industry. This is affecting the profitability and scalability of dairy farms.
- Tax Implications: Issues related to capital gains tax and land sales complicate succession and transition planning.
- Hobby farmers: They are driving up the cost of land but also impacting productivity on existing dairy farms. This can be through lack of management of weeds on the hobby farm or required changes in management on dairy farms due to the proximity of hobby farmers.

9. Water

- Changes in water policy and allocation uncertainty. Over the last 20 years, significant changes have been made to water policies such as unbundling water from land, carry over water and water trading. This has seen a major change to how water is used in the Murray Darling Basin (MDB) as well as the cost of water. It has opened more competition for water and seen less water getting used inside of the large MDM dairy regions such as the Goulburn and Murray valleys.
- Murray Darling Basin Plan: The removal of productive water from the MDB for environmental purposes has seen an increase in the cost of water in drier years and resulted in a lack of confidence to invest in their business by many dairy farmers in the MDB. There's a need for more proactive decision-making and clarity on water policy.
- Competition: Increasing competition for water from other industries (e.g. plantations, horticulture (e.g. Almonds)) limiting availability for dairy farmers.
- Seasonality & Availability: Variability in water availability affects farming operations. The ability to forward plan is limited when the future availability of water is unknown.
- Access & Decisions: Farmers are dealing with the uncertainty of future water access and the impact on production. They are currently limited in their ability to forward plan to maximise productivity given this uncertainty.

10. Shrinking Industry and Geographical Spread

- Geographic Disparity: Dairy industry is shrinking in certain regions, leading to inefficient supply chains and higher transport costs. There is also a resultant shortage of service providers in those regions that has a flow on effect across the whole supply chain.
- Processor Competition: Reduced competition from processors in shrinking regions, leading to fewer options for farmers.

11. Infrastructure Capacity

- Ageing Infrastructure: Issues with outdated infrastructure leading to inefficiencies.
- Capacity limitations: Availability and reliability of water and power supplies.
- Transport & Roads: Poor road conditions and lack of transport infrastructure hamper efficiency.

5.2 Value Chain

This section outlines the major drivers of value creation detailed by participants across the eight regional workshops with significant alignment across all regions on what these were.

5.2.1 Major drivers of value creation

- There needs to be a margin for participants across the whole supply chain. Everyone needs to get a 'lick of the ice-cream' was how it was aptly put in South Australia. There should be a balance of margins and power across the whole supply chain. Ensuring that retailers are not ruling the roost and controlling the whole value chain. Value creation requires a feedback loop with two-way communication and feedback across the whole chain.
- Improved industry cohesiveness and cross collaboration and transparency of communication across the whole supply chain.
- Professional and appropriate advocacy that holds everyone to account across the industry and delivers a cohesive, aligned and positive message that does not impact the industry negatively.
- Milk pricing and milk price signals
 - National pricing of milk by retailers is not recognising the 'cost of production'.
 - Look at regional pricing.
 - Seasonal pricing of other foods. e.g. fruit and vegetables that does not occur with dairy.
 - Smooth out the milk price to provide certainty, more consistent supply and enable better decision making across all areas of the supply chain.
 - Milk quality – processors want the best quality, however pricing signals don't reflect this e.g. get paid the same for 50,000 BMCC milk vs. 240,000 BMCC milk.
- Promotion
 - Regulation around labelling to better distinguish dairy versus non-dairy products – e.g. milk compared to Almond "milk".
 - Clearer labelling on imports versus Australian produced.
 - Minimum amount of shelf space should be dedicated to Australian products.

- Have the best markets been captured by the processors or is there more work that can be done in this area?
- Consistent language and signage.
- Providence story – safety/security of our milk product that is produced under higher requirements.
- Recognise and leverage the wealth cycle created by dairy exports, especially in Southeast Asia, to drive growth and profitability.
- Impact on community
 - Retention of farms & processing to sustain communities.
 - Government to see and treat dairy as more than just farmers – consider the whole of community contribution by dairy.
- Retailers/processors
 - Need to bring focus back to Australian industry.
 - International/lack of cooperatives – changing focus.
- Cross collaboration and increased efficiency in processing
 - Work together to fill stainless steel.
 - Ensure no collusion in the process.
 - Collective pickup with comingling of milk.
 - Bigger vats and vat monitoring on farm to provide accurate predictions of incoming milk flow and milk temperature.
 - Reduce logistics (costs) by promoting growth in regions.
- Improved productivity from farm gate to market
 - Each farm supplying sufficient volume as well as quality and composition to ensure gains in pricing, adding value to farmers.
 - Build relationships to utilise skills of other farmers.
 - Produce milk with the right components through use of cow genetics and balancing diets.
 - Grow grass, feed cows, make milk efficiently.
 - Efficient conversion of milk to product.
 - Efficient distribution to market.
 - Consider the investment to process milk on farm and whether it will add value.
 - Maximise the existing skillsets to their potential within industry.

- Work collectively to achieve outcomes such as hay entering Tasmania and marketing calves as quality veal.
- Vertical integration
 - Diversify production model.
 - Bobby calves/dairy beef – creation of markets, including possible cross collaboration with MLA to ensure all options are considered that will consider margins for both dairy and beef farmers and help to address GHG issues at the same time.
 - Complementary enterprises such as chickens.
 - Leverage sustainability to turn it into a value add rather than a cost to the business through improved marketing – around items such as GHG and bobby calves.
- Ensure supply chain limitations don't impact productivity
 - e.g. Lack of abattoir capability meaning farmers have to retain surplus animals when they have a lack of feed.
 - Consider non-road transport options for improved efficiency. e.g. Rail
 - Road infrastructure upgrades and maintenance to ensure they can take B doubles.
 - Generators on farm to ensure no milk dumping in power outages.
- Culture of pride
 - Maintain pride across the industry.
 - Tall poppy syndrome – stops people promoting the industry or when positive messages are out there others knock them down.
- Government policy and regulation
 - Need to be alert to anti-dumping.
 - Protect exports including livestock and dairy products.
 - Protect trade agreements and ensure they are fair trade agreements and not just free trade agreements.
 - State governments/regional governments to work together to support change.

6. Priorities and recommendations for Industry and Government

This section details the priorities and recommendations based on the analytical data and feedback received at the regional workshops and national forum

6.1 Competitiveness and productivity

1. Government Policy and Regulation

- GMO & Virtual fencing – reduced restrictions on these two key policies will be a productive driver for the entire dairy value chain.
- Government support for implementing technology – grants or investment allowance; capability and training.
- Review and revise existing policies around new on-farm housing and the tenancy act to ensure they are fit for purpose in the agricultural landscape where the availability of the house should be directly linked to the ongoing employment.
- Ensure OH & S regulations are tailored, where relevant, to agriculture to reduce the impost on farmers from both a cost and administration perspective. The most recent example is the requirement for farmers to have a crane licence to operate telehandlers above a certain size, where the course takes 3 days and costs \$5,000.
- Ensure consideration of the impacts on prime agricultural land of issues such as renewables and urban sprawl where existing policies limit growth and productivity of existing businesses and the industry as a whole.
- Clarity & certainty around policies with clear timelines – streamlined processes.
- Public consultation on policy and regulation to ensure it is best fit across the whole industry and between industries.
- United & aligned approach within industry and within all levels of government.
- Industry to take a proactive approach regarding issues such as carbon regulations.
- Ensure a level playing field across sectors – including consideration of water and housing.
- Regional exemptions for younger driving ages.

2. Labour, Succession and Transition

- Improved promotion & education across whole industry– positive messaging and education to assist with encouraging, attracting and retaining labour across the supply chain, both in regional and metropolitan areas. This should include messages that it is ok to be a lifetime manager or

sharefarmer and that farm ownership is not the only pathway. This should also include renewed and increased focus on promoting agriculture and dairy in schools.

- Improve telecommunications infrastructure to enable specialist support remotely.
- Streamline processes & provide incentives for traineeships/apprenticeships – to encourage farmers to take them on & new entrants to apply.
- Need clearer pathways for succession/transition. This should include a focus on knowledge sharing across the industry and linking landowners with those who want to run the operational dairy business. This will also require continued exemptions and better understanding across industry around capital gains tax and stamp duty implications.
- Clear guidance and improved industry knowledge of the available business structures to achieve succession and transition – equity partnerships, share farming, leasing, managing.
- Ongoing provision of and improved & streamlined processes for RIC loans.
- Access to capital & investment allowances for growth & improved technology.
- Access to and support for migration & services for overseas workers.
- Reduce the restrictions around new housing, the tenancy act, OH&S (telehandler, ATV), animal welfare and virtual fencing to improve on-farm productivity and profitability.
- Improved education within the industry, including increased benchmarking, discussion groups and general focus on improving business acumen to ensure improved understanding of businesses.
- Increasing skills & knowledge transfer – ensure wholistic advice, cross- region advice.
- Focused agricultural training.
- Skill transfers within the service sector – access these skills remotely to ensure effective implementation of technology and improve sharing of skills across the industry.

3. Productivity and Farm Systems.

- Better implementation of Research, development and extension.
- Reduced & targeted regulation – virtual fencing, GM, proactive engagement re: carbon (N use, mixed species).
- Understand the impacts of chasing output over productivity.
- Improved water availability/access/cost.
- Increasing skills & knowledge transfer – silo advice & R, D & E, knowledge transfer.
- Increased benchmarking, discussion groups & business acumen to ensure better understanding – incentives.
- Improved infrastructure – telecommunications, roads, power.
- Government support to assist with the reliability and cost of power across the supply chain.

4. Research, Development and Extension

- Make sure it is regionally specific and contextualised.
- More unbundled advice versus bundled.
- Need cross industry collaboration between Dairy Australia and MLA re: dairy calves.
- Resourcing of Ag. Vic – agriculture is important, losing knowledge, targeted R, D & E.
- Encourage transfer of knowledge between regions – consultants, service providers (remote access).
- Improved assessment and advice on changing systems and dairying in different regions.

5. Milk price and milk price signals

- Review the dairy code of conduct to ensure all aspects are fit for purpose and commercial.
- Supporting/incentivising processors to remain viable (energy, transport, profit across all sectors).
- Review the national pricing model.
- Bring the focus back to Australia – International/co-op mix leading to a change in focus.
- Continued focus by industry and government to ensure access to a wide range of markets domestically and internationally.

6. Social Licence

- Industry needs to proactively take ownership – promote what dairy does regarding this.
- Cross RDC collaboration to find a system that will deliver for dairy and beef.
- Third party oversight of social license requirements – e.g. RSPCA approved tick for chicken.
- All of industry collaboration to achieve the best outcomes.
- Consistency in assessment tools – carbon calculator.

7. Land use competition

- Ensure there is clear regulation & consultation – windfarms, trees.
- Ensure a level playing field – including consideration of water.
- Link with other organisations to put forward a wider voice – councils, etc.
- Access to housing on land sold for trees – seek rule changes for subdividing these.
- Cost-benefit assessment of dairy expanding into other regions & better assessment of changing systems.
- Government to ensure prime agricultural land is retained for this purpose.
- Obligations to use land productively – hobby farmers.

6.2 Value chain

1. Improved productivity across the supply chain

- Work together to deliver efficiencies and maximise markets.
- Work together to fill stainless steel or enable the product mix with the best margin.
- Increasing geographical spread is impacting costs and efficiency.
- Continue to review and coordinate collective pick up with comingling of milk.
- Bigger vats & vat monitoring on farm (determine quality & flow).
- Improved infrastructure – roads, connectivity, power.
- Factory upgrades within regions to lower carbon footprint and costs.

2. Industry margins, collaboration and cohesiveness

- Everyone needs a “lick of the ice cream”.
- National pricing – retailers in control, loss of co-ops, value creation.
- Review the dairy code of conduct to ensure all aspects are fit for purpose.
- Renewed focus on Australian dairy as an industry.
- Cross collaboration across industry – all levels of the dairy supply chain, with other RDC’s where applicable.
- Aligned industry leadership.
- Improved industry cohesiveness.
- One combined voice from the industry.
- Transparency of communication across the whole supply chain.
- Value creation requires a feedback loop with two-way communication and feedback across the whole chain.
- Whole of supply chain traceability.

3. Promotion

- Promotion of the Australian dairy industry in general – as an investment, place to work and the opportunities it provides (positive messaging).
- Labelling – clearly identify as dairy vs non-dairy and Australian vs International.
- Improved consumer education not only about the nutritional value of milk but also around what dairy is proactively doing around the social licence issues.
- Ensure the best markets have been captured domestically and internationally.

- Providence story – safety/security of our milk product that is produced under higher requirements.
- Optimise new and existing market opportunities.
- Improved exposure in education settings.
- Renewed and improved focus on education across the supply chain.

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