



Dairy
Australia

Performance Report

2021/22

DELIVERING
for **DAIRY**

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Introduction

Dairy Australia is pleased to present this year's Performance Report, a companion document to our Annual Report 2021/22.

This report provides detailed information about our achievements and progress on initiatives to support the profitability and sustainability of the dairy industry.

This is our second year reporting against Dairy Australia's 2020–2025 Strategic Plan. This plan describes our priorities and the outcomes we will deliver over five years.

Our priorities align with the key commitments of the Australian Dairy Plan and guide our work on behalf of the industry.

In 2021/22, Dairy Australia invested \$64 million across our seven strategic priorities. Our work and investment is focused on services, connections and engagement with farmers throughout the eight dairy regions in Australia. We deliver to industry through:

- research and innovation
- support for farm business management
- responding to events such as drought, bushfires, floods or COVID-19
- developing tools that support farmers adapt to the environment and address climate
- support for on-farm employment needs
- marketing of dairy products
- commitment to sustainability
- policy research
- industry insights
- delivering international market programs.

Key group-level performance metrics are outlined across the key aspects of financial, people, stakeholder satisfaction, technology and infrastructure, and risk management.

We are committed to transparency and providing information that is of interest and relevance to farmer levy payers and industry and government stakeholders, including our many partners who invest with us in major projects.

For more about Dairy Australia, our achievements, people and corporate governance, see the Annual Report 2021/22 available on our website dairyaustralia.com.au.



James D. Mann.

James Mann Chair



David Nation

David Nation Managing Director

Our strategy

Dairy Australia has seven strategic priorities from 2020 to 2025. Each priority is underpinned by a goal, and key outcomes.

	1	2	3	4
Goals	MORE RESILIENT FARM BUSINESSES	ATTRACT AND DEVELOP GREAT PEOPLE FOR DAIRY	STRONG COMMUNITY SUPPORT FOR DAIRY	THRIVE IN A CHANGING ENVIRONMENT
	Farm businesses that are more profitable, resilient and innovative in managing price and cost volatility	Attract great people to the dairy industry, build their capability and careers, and foster a safe work culture	Enhanced trust and value in the Australian dairy industry, its farmers and products	Profitable farm businesses that adapt to the changing natural environment and provide good stewardship of resources
Outcomes	a Business planning that leads to better decisions and sustained success	a Greater awareness of Australian dairy as an attractive industry with rewarding careers	a The Australian dairy industry is trusted and accepted by the community	a Greater ability to adapt to changes in the natural environment
	b Clear and understood drivers of dairy farm profitability and productivity	b Clear and supported skill development and career pathways	b Australian dairy is valued for superior health and nutrition benefits	b Efficient and profitable use of land, water, carbon and energy resources which nurtures and sustains the natural environment
	c Expanded range of risk management tools for price and cost volatility	c Access to capable and skilled farm employees and service providers	c The Australian dairy industry is committed to animal wellbeing	c Proactive action to reduce global warming and greenhouse gas emissions
	d Innovation in finance that increases access to capital for expansion and new entrants	d Support farm businesses and their service providers to get the basics right		

5

SUCCESS IN DOMESTIC AND OVERSEAS MARKETS

Improved access to high-value dairy markets, backed by trusted market insights and a favourable regulatory and policy environment

a Australian dairy is valued around the world for its premium products

b A favourable policy and regulatory environment

c Access to trusted market insights that inform decision-making

6

TECHNOLOGY AND DATA-ENABLED DAIRY FARMS

Inspire more agile and responsive dairy businesses through greater integration of technology and data

a Accelerated genetic progress in feedbase and animal breeding

b More flexible and agile dairy production systems

c Greater use of high-value technology on-farm

d Connected dairy production systems utilising multiple data sources to enhance decision-making

7

INNOVATIVE AND RESPONSIVE ORGANISATION

An organisation that is farmer-focused, with talented people who embrace innovative thinking and decisive action

a We have a farmer-focused service delivery model

b Our culture of learning and innovation, values and ways of working deliver success

c Our infrastructure, resources and processes allow us to be informed, agile and responsive

d We have effective and transparent management of resources



Key achievements 2021/22

The following pages provide a short overview of some of our key achievements for 2021/22.

Our priorities and outcomes are set out in our Strategic Plan 2020–2025, which is a companion document to this Performance Report and the Annual Report 2021/22.



Farm business management

Enhanced the business planning program, **Our Farm, Our Plan**, with 404 farmers participating. The program was a finalist in the 2022 International Dairy Federation Innovation Awards.



Extension activities

Provided 627 **extension activities** to over 10,000 attendees across Australia to support farm businesses. Activities were delivered in person by regional teams, online or in a blended delivery mode.



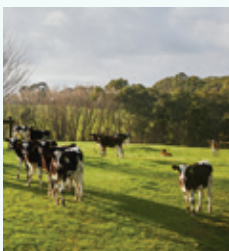
Intensive feeding systems

Brought together 220 farmers and service providers to explore **investing in and operating dairy systems** using housing infrastructure, at the Raising the Roof event in northern Victoria.



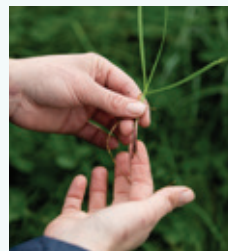
Building workforce skills

Supported 113 farm business leaders to **build the capability of new workers** through the new Employment Basics program.



Summer forages

Finalised the multi-year **C4 Milk research** project which examined feedbase practice changes to improve margins where C4 forages are used in subtropical and other regions for dairy production.



Forage analysis

Supported the **Unlocking the Potential of Kikuyu** grass project, part of the **NSW DairyUP** program, to establish study sites on 14 commercial farms in New South Wales with multi-year study activities in progress.



Herd fertility

Continuing to **monitor national herd fertility** and now observing a significant turnaround where decline has plateaued. Ongoing research and training in herd fertility remains a high priority.



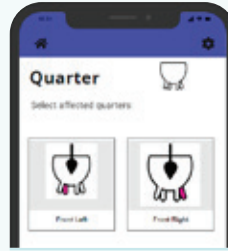
Reducing heat stress

Explored feed options through the **Dairy Feedbase Feeding Cool Cows** project to lower the risk of heat stress. This included the role of chicory, fat supplements, altered fibre percentage and additives such as Betaine.



Genomics programs

Delivered the **Heifer Genomics** project to build, pilot and implement three new extension options: Genomics at a Glance, Genomics in Practice and Genomics in Action.



Diagnostic tools

Developed the **Clinical Mastitis Treatment Decision Tool** to assess commercially available, point-of-care, mastitis diagnostic tests and better understand their use and limitations within Australian dairying systems.



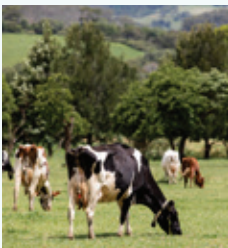
Water management

Delivered the **Smarter Irrigation for Profit 2** project, which concluded this year. Participants indicated a very strong willingness to take up technologies for soil moisture monitoring and irrigation system evaluation.



Milking system performance

Worked with the NSW Department of Primary Industries on the **Milking Edge** project to develop and pilot eight learning modules, which enables farms to optimise the performance of automatic milking systems.



Farm performance

Completed a comprehensive report on the **Australian dairy industry's farm productivity**, including a comparative analysis with the USA dairy industry.



Impact assessment

Conducted impact assessments on two recent investments, the **Improving Reproductive Performance** and the **Forage Value Index** projects. Both projects had strong returns for farmers.



Biosecurity

Reviewed the **dairy biosecurity response manuals** with the broader industry. This work is critically important due to the threat posed by Foot-and-mouth disease and Lumpy skin disease.



Information for investors

Provided 13 key industry investors insights around critical factors driving **successful farm-based investments** through the Australian Dairy Investment Program.



Fractures research

Leveraged the **Fractures Trial**, which found a daily increase of dairy in the elderly, from an average of two serves to three-and-a-half serves, led to a 33% reduction in all fractures (46% in hip fractures) and 11% reduction in falls.



Industry marketing

Promoted the taste and use of dairy through a national **Buy, Support, Enjoy Aussie Dairy** campaign on TV, radio and digital advertising channels. Approximately 40% of the target audience could recall the campaign, and 66% incorporated more dairy into their diet.



Education in schools

Reached over 500,000 students and educators through **school education programs** and initiatives – Picasso Cows, Discover Dairy online curriculum hub, virtual classrooms, and a partnership with Life Education Australia.



Sustainability Framework

Facilitated the ongoing development and implementation of the Australian dairy industry's **world-leading sustainability framework** which celebrated its 10-year anniversary this year.



Sustainable packaging

Worked with industry to develop a **packaging roadmap** so that all dairy packaging is reusable, recyclable and compostable by 2025, as per government targets.



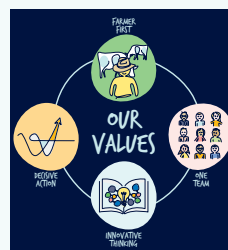
International markets

Launched the **Thrive Together** trade messaging campaign in partnership with the Victorian Government to strengthen the international profile of Australian dairy in key Asian markets.



Export connections

Provided potential Australian dairy exporters with **new induction resources** as a more tailored and easier way to expand into high value international markets.

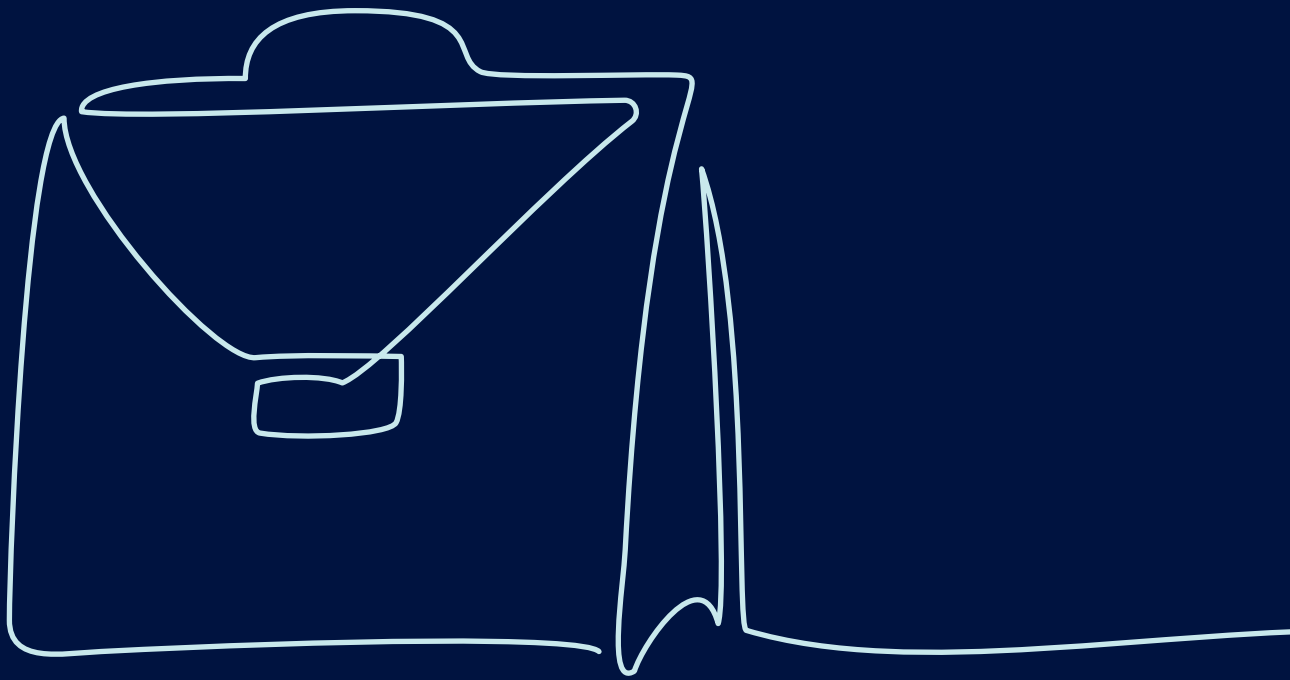


Our values

Ongoing action to embed our organisational Values to **enhance our delivery to farmers** and the industry – farmer first, decisive action, one team and innovative thinking.



Our portfolios





More resilient farm businesses

Goal Farm businesses that are more profitable, resilient and innovative in managing price and cost volatility

Strategic outcomes

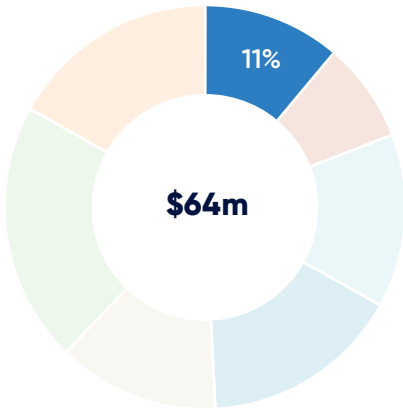
- a** Business planning that leads to better decisions and sustained success
 - b** Clear and understood drivers of dairy farm profitability and productivity
 - c** Expanded range of risk management tools for price and cost volatility
 - d** Innovation in finance that increases access to capital for expansion and new entrants
-



Our projects, activities and services	Strategic outcomes			
	1a	1b	1c	1d
Our Farm, Our Plan	•	•		
Dairy Farm Monitor		•		
Large supplier program	•	•		
Milk Price Monitor	•	•	•	
National Herd Reproductive Performance Report		•		
Australian Dairy Investor Engagement				•

Investment

Dairy Australia investment 2021/22 **\$7m**



External investment 2021/22 **\$1.2m**

Key funding partners	Contribution
Agriculture Victoria	\$0.5m
Gardiner Dairy Foundation	\$0.3m
NSW Department of Primary Industries	\$0.2m
University of Sydney	\$0.1m

Key partners

- Federal and state governments
- Gardiner Dairy Foundation
- Australian Dairy Farmers
- Banking sector and other providers of capital
- Processing sector and their farmer clients

Performance summary

Key portfolio projects Our Farm, Our Plan and the Dairy Farm Monitor Project (DFMP) are performing well and in line with respective plans. While we are determined to achieve 2024/25 targets, these metrics are ambitious. Consequently, portfolio projects, activities and measures will be reviewed in 2022/23. The Business Snapshot decision-making tool, risk management and the Milk Value Education Series will need further work in 2022/23, including awareness building, to achieve planned outcomes.



STRATEGIC OUTCOME 1A

Business planning that leads to better decisions and sustained success

A robust and regularly reviewed business plan is essential to manage farm businesses. This forms the basis to set goals, measure farm performance, confidently make decisions and capture opportunities.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Dairy farm businesses perform systematic, periodic business reviews at least annually	80% farm businesses	69%	55%
Dairy farm businesses make key long-term decisions using a documented business plan	80% farm businesses	49%	43%

Key achievements

- Positive feedback from farmers participating in Our Farm, Our Plan rates the value to them at greater than nine out of 10, with 91 per cent indicating they are 'very likely' to act.
- More than 50 per cent of the 404 farmers participating in Our Farm, Our Plan during 2021/22 did so online (38 per cent completely and 15 per cent used hybrid delivery models).
- Our Farm, Our Plan was nominated as one of three finalists in the 2022 International Dairy Federation Innovation Awards, Innovation in Sustainable Farming Practices – socio-economic category.
- Large suppliers highly valued their engagement with Dr Nollaig Heffernan to advance their business strategy on Being an Employer of Choice with 50 workshops held and a rating from participants of nine out of 10.

STRATEGIC OUTCOME 1B

Clear and understood drivers of dairy farm profitability and productivity

The drivers of profitability and productivity can differ between individual farms, regions and production systems. Understanding those drivers, their differences and the levers that can affect them is what will drive margin on farms. This is even more important at times when there is increased volatility and disruption to normal business operations.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Farm decision-makers can accurately state the profit metrics for their farm	60% farm businesses	15%	22%
Farm decision-makers can accurately state the productivity drivers for their farm	90% farm businesses	81%	68%

Key achievements

- The 2020/21 year was a positive year across the dairy industry, with good seasonal conditions and positive trading conditions. Average earnings before interest and lease (EBIT) for Dairy Farm Monitor Project participant farms was: northern Victoria (\$1.76/kg MS), south-west Victoria (\$2.04/kg MS), Gippsland (\$1.78/kg MS), New South Wales (\$2.07/kg MS), South Australia (\$2.37/kg MS), Western Australia (\$2.24/kg MS), and Queensland (\$1.39/kg MS)
- Released the Australian Dairy Farm Productivity report following a series of three webinars in May 2021. Conducted further comparative analysis of the USDA Dairy Productivity results as a precursor to further global productivity research.
- Completed the National Herd Reproductive Performance Report in May 2022 which indicated:
 - the long-term decline in national herd reproductive performance has plateaued since 2008
 - the median six-week in-calf rate for seasonal and split calving herds of 53 per cent and
 - the median 100-day in-calf-rate for year-round calving herds of 25 per cent.
- The large variation in reproductive performance between herds within years and the top 25 per cent of herds were achieving 61 per cent and 39 per cent for six-week in-calf rate and 100-day in-calf rates, respectively, indicating high reproductive performance is possible.
- Of concern is the marked decline in the number of herds with early rectal pregnancy test data available for analysis in the Central Data Repository. Strategies to address this have and should continue to be considered by the future Animal Wellbeing Dairy Moving Forward group.

STRATEGIC OUTCOME 1C

Expanded range of risk management tools for price and cost volatility

Australia's tools for securing farm operating margins in an environment of price and cost volatility are under-developed in comparison to major overseas competitors. Given the ongoing volatility in Australia, it is important to rapidly improve tools for risk management.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Farm businesses are actively using risk mitigation initiatives to manage exposure to price and cost volatility	80% farm businesses	57%	47%
Farm owners and managers' specific business needs are met through the range of available risk management tools or risk mitigation initiatives	80% of farms using or considered using risk mitigation initiatives	23%	24%

Key achievements

- The Farm Business Snapshot tool went live in 2021/22. Promotional activities raised awareness of the tool, including integration into the Our Farm, Our Plan materials achieving 300 users.

STRATEGIC OUTCOME 1D

Innovation in finance that increases access to capital for expansion and new entrants

Finance is a highly innovative sector and better access to finance is important for dairy businesses seeking additional capital.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Farm owners and managers have opportunity to access capital to meet their requirements.	80% of farms had no problems accessing finance for capital investment when attempting to do so	78%	73%
A new mechanism that recognises dairy specifically and allows access to capital for expansion and new entry into dairy farming is developed, supported and commercially available.	One new mechanism developed	0	0

Key achievements

- Delivered the Australian Dairy Investment Program to the first annual cohort of 13 key industry investors and investor organisations.
- Received positive feedback from all participants about the workshops and the networking opportunities provided at the alumni dinner.



Case study

Productivity study

Objective

The objective of this project was to understand how national and regional dairy farm productivity has changed over the past two decades and the key determinants driving this change.

Profitability is determined by two factors:

- The relationship between outputs over farm inputs (productivity)
- The relationship between the prices received and paid for these outputs and inputs (terms of trade).

While the terms of trade are largely outside the control of the farmer and Dairy Australia, through investing in RD&E Dairy Australia can positively influence the productivity and farm profitability.

Action

This research drew on detailed farm level data from the DFMP and Queensland Dairy Accounting Scheme (QDAS). Productivity indexes were calculated to estimate the annual level and relative change in productivity at different industry groupings.

The project applied novel and sophisticated productivity models that have only been used to analyse productivity in the dairy industry in Australia, and more recently in the United States. These techniques are far more advanced and more robust compared with other techniques previously used to measure dairy farm productivity.

The advantage of more advanced models is that they allow us to observe the impact on farm productivity and profitability of new technology or new knowledge, and the level and speed to which farmers have been taking up new technology or, innovation and new knowledge.

The results showed that productivity growth is essential to maintaining the long-term competitiveness of farm businesses, but dairy farm productivity growth has been weak over the last two decades.

Most productivity growth has been shaped by farmers changing their mix of inputs and outputs in response to their changing circumstances.

A break-down of productivity growth using sophisticated statistical techniques reveals that while growth in new technology or new knowledge has been flat, most farmers are already highly technically efficient in using existing technologies that have been widely adopted.

Over the past year, the project team engaged with a wide range of stakeholders across the country and farmer research and service bodies overseas to communicate the outcomes and insights from the project. In the latter half of 2021/22 the project team also engaged with the USDA following the publishing of results from a similar study using a similar model for the United States dairy industry. This led to expanding the analysis towards an international productivity comparison.

Impact

RD&E are key the drivers of productivity performance. Given most farmers appear to be efficient in adopting R&D, it is vital that new R&D delivers improved productivity outcomes in the future. This will require continued and improved investment in Dairy Australia's RD&E portfolio.

With a better understanding of the role Dairy Australia's RD&E investment plays in increasing farm profit, this will lead to:

- Better informed strategic decision-making at Dairy Australia
- A more optimally balanced portfolio towards investment in projects supporting technical innovation and technical efficiency
- More investment in better RD&E projects particularly in the areas of basic and applied research
- More profitable and resilient dairy farms.

2

PRIORITY

Attract and develop great people for dairy

Goal

Attract great people to the dairy industry, build their capability and careers, and foster a safe work culture

Strategic outcomes

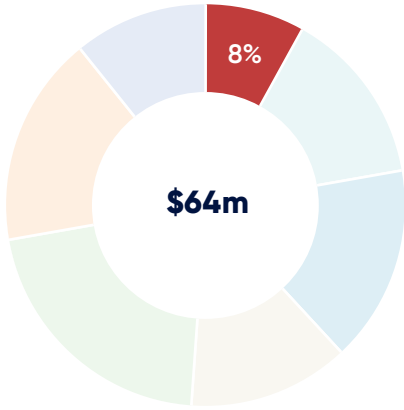
- a Greater awareness of Australian dairy as an attractive industry with rewarding careers
- b Clear and supported skill development and career pathways
- c Access to capable and skilled farm employees and service providers
- d Support farm businesses and their service providers to get the basics right



Our projects, activities and services	Strategic outcomes			
	2a	2b	2c	2d
Farm Safety	●			●
Dairy Farm Managers	●	●	●	
Regional Services				●
Extension		●	●	●
Rearing Healthy Calves			●	●
NSW Farmer Capability Coaching and Extension	●	●	●	
People in dairy	●	●	●	●
Australian Rural Leadership Program sponsorship		●		
DairyLearn partnerships		●	●	
Dairy Passport Transition	●	●	●	●
Artificial insemination training and professional accreditation			●	●
Workforce evidence-based targeted marketing	●	●		
Dairy workforce network implementation	●	●		
Workforce Attraction – Pathways and Resources	●	●		
Simulation education for artificial insemination		●	●	
People in Agriculture 2 (PiA2)	●	●	●	●
Workforce Participation of Women in Dairy: A pilot project	●	●		
Rural Health and Safety Alliance 2	●			●

Investment

Dairy Australia investment 2021/22 **\$5.3m**



External investment 2021/22 **\$0.2m**

Key funding partners	Contribution
Department of Job, Precincts and Regions	\$0.8m
Other RDCs (Meat & Livestock Australia, Grains Research & Development Corporation, Cotton Research & Development Corporation, Australian Pork Limited, Australian Egg Corporation Limited)	\$0.03m

Key partners

- Dairy Industry People Development Council
- Gardiner Dairy Foundation
- DairyLearn Partner Network (registered training organisations and universities)
- Marcus Oldham College, University of Tasmania, University of Sydney

Performance summary

Preliminary work on a significant investment to tackle workforce shortage challenges and attract new people to dairy farming sets up this portfolio to deliver on 2024/25 targets. This program of work, together with a review of all existing people related investments, will contribute to planning for 2022/23. The Dairy People Development Council has been paused, with a review underway to introduce a new advisory group under the Dairy Moving Forward framework in 2022/23. People in Agriculture project is also under review and will inform 2022/23 plans.



STRATEGIC OUTCOME 2A

Greater awareness of Australian dairy as an attractive industry with rewarding careers

There are strong community perceptions about dairy based on historic views of long hours and hard work. Modern dairy operations are much more diverse with roles that are highly skilled and provide genuine career opportunities.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Dairy farm employers can describe why dairy is rewarding to work in	80% of employers	75%	80%
Australians would consider working on a dairy farm	30% of community	20%	27%
All dairy farms implement good safety practices	100% farm employees	85%	78%

Key achievements

- Completed workforce segmentation research to target potential candidates in dairy regions and identify their motivators and barriers to working in the dairy industry.
- Developed a new marketing campaign to generate public awareness of dairy as an attractive industry to work in, increasing workforce attraction and industry awareness.
- Commenced recruitment for Project Lead Workforce Attraction roles to support the delivery of clear and supported capability development and career pathways.
- Initiated a Careers Department sponsorship which will support 40,000 young people in 100 schools to increase awareness of Australian dairy as an attractive industry with rewarding career opportunities.
- Launched a pilot Rural Women group program, to develop career pathways, to support capability development and increase engagement in the dairy industry.

STRATEGIC OUTCOME 2B

Clear and supported skill development and career pathways

As the needs of the dairy industry evolve, the industry requires a workforce with an advanced range of capabilities and a greater diversity of career pathways to lead to more successful dairy careers, including pathways to business ownership.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Employees have clear, logical and supported development pathways in dairy	70% of farmers who are building their career in dairy	54%	91%*
Employers have clear, logical and supported development pathways for themselves	70% of employers	52%	49%
Employers have clear, logical and supported development pathways for their employees	70% of employers	65%	67%

*Change of source for 2021/22

Key achievements

- Awarded two students Dairy Farm Manager scholarships at Marcus Oldham College, supporting them to undertake further studies to develop their career in the dairy industry.
- Completed consultations with the largest 40 farm businesses to discuss the integration of the Graduate Diploma into staff professional development programs to continue to expand dairy career pathways.
- Developed and launched of the Employment Basics program to set up farm business leaders with the basics to build capability and a consistent learning experience for new starters.
- Designed and developed the Managing People program, focussed on people management leadership and how this will benefit a farm business, including increasing employee engagement and staff performance.
- Offered Australian Rural Leadership Program Dairy sponsorship, with dairy scholarship offered to continue to support capability development and dairy career pathways.
- Secured a Workforce Training and Innovation Fund grant to develop artificial insemination training, and continue to provide innovative learning experiences to improve conception rates.
- Completed phase 1 of the national Artificial Insemination program, and formalised partnerships with three registered training organisations to deliver a simulation education resource suite to support workforce capability development.
- Designed and developed a new people management support program pilot to provide personalised HR support and coaching, to build capability and support career development.
- Developed a Virtual Reality simulation education for Artificial Insemination, providing an innovative best practice learning experience to improve conception rates.

STRATEGIC OUTCOME 2C

Access to capable and skilled farm employees and service providers

Farm businesses continue to require skilled labour on-farm and access to quality service provision from external providers. Success requires employers to be confident and capable to hire, manage, lead and provide a safe work environment for capable people. Service providers need to invest in their own capability and support a new generation of talented professionals.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Dairy farm businesses agree they have sufficient access to skilled service providers to meet their needs	85% farm businesses	69%	68%
Employers report that the time taken to find a new employee was less than one month	80% of employers that employed someone in the past 12 months	69%	71%
Employers were able find an employee with the right capability for the role in the past 12 months	80% of employers that employed someone in the past 12 months	70%	78%

Key achievements

- The National Herd Improvement Association of Australia (NHIA) artificial insemination manual underwent a major update by a group of six subject matter experts to reflect industry best practice and include elements of work health and safety, animal welfare and biosecurity.
- An online learning package for the theory component of the course, based on the revised manual, was developed by Dairy Australia's Learning and Development team to ensure a best practice learning experience for participants who were able to optimise face-to-face training and focus on practical skills acquisition.
- A state-of-the-art, step-by-step, best practice 'how to' video with anatomically correct animations was created at Total Livestock Genetics (Camperdown). This was incorporated into the learning program and loaded onto YouTube for wider industry use.
- Developed facilitator and trainer resources, including guidance on biosecurity requirements and navigating animal ethics approvals was developed.
- The program was successfully piloted in Subtropical Dairy (Rockhampton) and Murray Dairy (Kyabram) and has now been handed over to NHIA for ongoing management. There are six Registered Training Organisations nationally expected to offer this training.

STRATEGIC OUTCOME 2D

Support farm businesses and their service providers to get the basics right

Farm businesses are complex with many interconnected decisions required on a daily basis in order to produce milk. Establishing fundamentals such as soil management, pasture agronomy, animal nutrition and milk quality is important for farm success.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Farm businesses have access to the information and tools they need to get the fundamentals right on farm	80% farm businesses	63%	61%
Service providers have access to the information and tools that they need to get the fundamentals right on farm	80% service providers	65%	85%

Key achievements

- Launched the Living with COVID program including supporting resources (via the Farm Safety Technical Advisory Panel) to increase awareness and access to support for farm businesses with their COVID-19 response.
- Completed development of the Building Your Farm Safety System resource to support best practice safety on farm, to be published on the People in Dairy website.
- Engaged with over 10,000 attendees nationwide through extension activities delivered through regional team members. These activities were delivered in-person, online and/or via blended delivery methods designed to support farm businesses to get the basics right.
- Delivered 627 extension activities nationally to support dairy farm businesses and service providers increase their awareness, knowledge and skills in a wide range of technical topics relevant to the dairy industry.
- Developed, piloted and delivered Rearing Healthy Calves (Fundamentals) across all regions in late 2021.
 - Of the 10 programs delivered nationally since that time, on average, participants rated the program 9.3/10 for overall value to their business and 86 per cent indicated they were likely to act because of attending the program.
 - During the same period in 2019/20 (prior to redevelopment), the program was rated 9/10 for overall value to their business and only 70 per cent indicated they were likely to act because of attending the program.
 - The development of Rearing Healthy Calves (Advanced), and both Fundamentals and Advanced online programs commenced and are expected to be completed by December 2022.
- Initiated enhancements to the People in Dairy website to increase engagement and improve the user experience and satisfaction by 23 per cent in 2021/22.
- Initiated development of new Human Resources and behavioural policies to expand the offering to dairy farm businesses and support them to get the basics right.
- Finalised the transition of Dairy Passport to support effective and efficient management of on-farm safety policies and procedures and provide dairy farm businesses access to a commercial Work Health and Safety solution and Safe Ag System.
- Finalised consultation with Regional Development Corporations on a review of the People in Agriculture website to simplify and streamline the user experience.
- Delivered practical research, development and innovations that contributes to best practice and a reduction in farm safety incidents and injuries.



Case study

Workforce attraction

Objective

Attracting people to work on farms in regional Australia has been a challenge faced by the broader agricultural sector for many years. The impact of COVID-19 migration barriers on the Australian labour market has worsened the worker shortage.

The National Dairy Farmer Survey 2021 indicated that one in four farmers faced challenges related to labour availability. A similar proportion reported they were unable to fill vacant positions within three months.

Some of the known barriers included a negative public perception surrounding dairy work, competition for talent between dairy and other industries, inaccessibility of housing and transport in regional areas, farmers finding the recruitment process outside their skillsets, and too much focus on traditional candidate characteristics.

Action

To help address the labour shortage, Dairy Australia invested in a two-year program of work that aims to attract jobseekers into roles on farm and provide support for farmers to successfully hire and manage staff.

To underpin the program, foundational research was undertaken to identify potential jobseeker segments, and understand their current perceptions of working in dairy, employment drivers and barriers, and value propositions to attract them to dairy.

An initial survey showed that 18 per cent of regional adults agreed that working in dairy would be appealing, and 19 per cent would consider working on a dairy farm. For those that would consider working on farm, 57 per cent said they would use jobsites such as Seek or Indeed to search for jobs, with other information sources including Dairy Australia, online search, word of mouth and careers expos.

Further research was undertaken with potential jobseeker segments including those working in agriculture (non-dairy), people working outside of agriculture in roles that would align with dairy work requirements and interests, and local workers or students looking for additional work or new opportunities

The research identified barriers to be addressed and factors that would motivate people to explore a job in dairy. These included working with animals, working outdoors, career progression, job variety and training, job security and the contribution Australian dairy makes to the community through the production of a highly nutritious food.

Impact

The research insights have informed the development of a new marketing campaign developed to generate public awareness of dairy as an attractive industry to work in. Featuring dairy ambassador, Jonathan Brown, and farmer ambassadors, the campaign showcases why 'A job in dairy matters'.

The insights will also be used to encourage students to consider a job in dairy. To do this Dairy Australia has built on the Discover Dairy Schools program to include a careers attraction resource kit for use in schools, careers expos and online at dairy.edu.au/careers.

A partnership with the Careers Department Nationals Schools Tour which aims to widen student concepts of careers by bringing industries to them was also initiated. The tour reaches over 100 schools and 40,000 students nationally in a face-to-face format over 12 months. Dairy Australia will work with the Careers Department to promote careers in dairy and educate students on dairy pathways and/or job opportunities.

PRIORITY

3

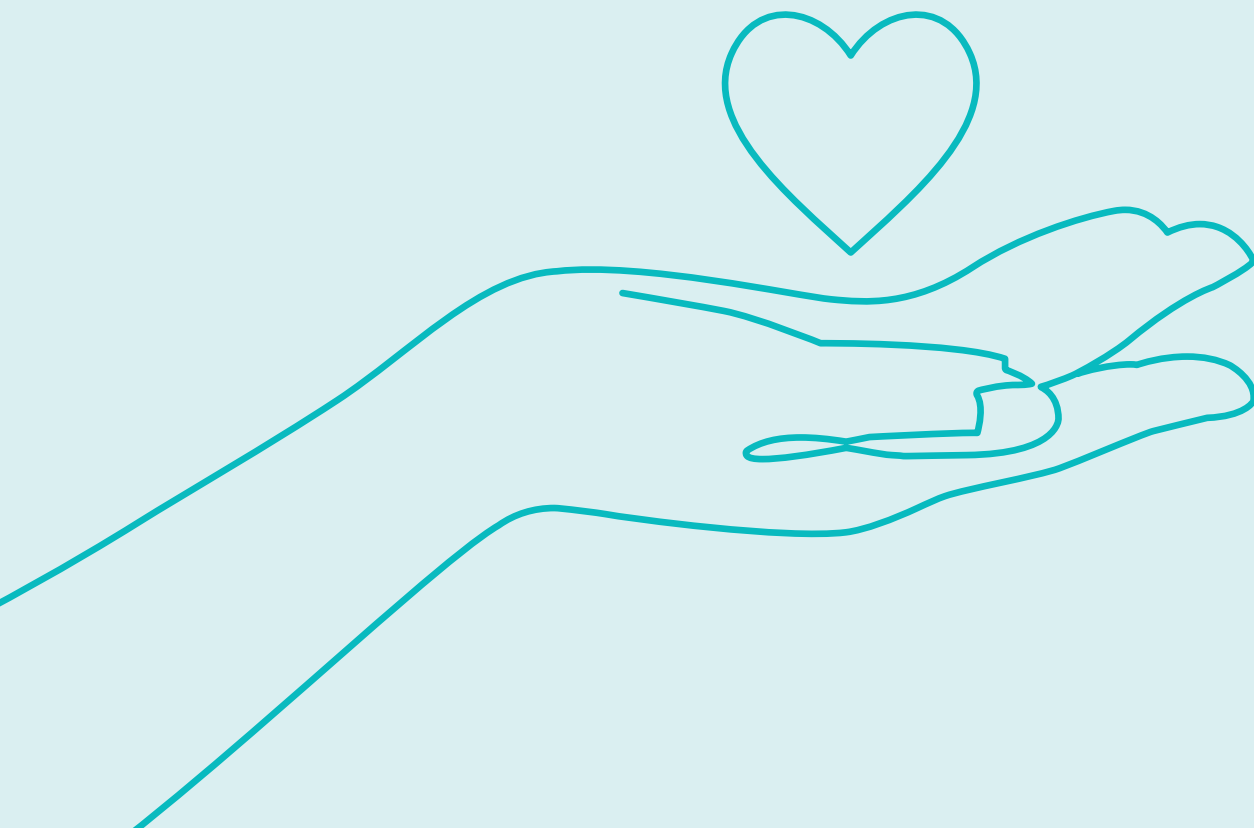
Strong community support for dairy

Goal

Enhanced trust and value in the Australian dairy industry, its farmers and products

Strategic outcomes

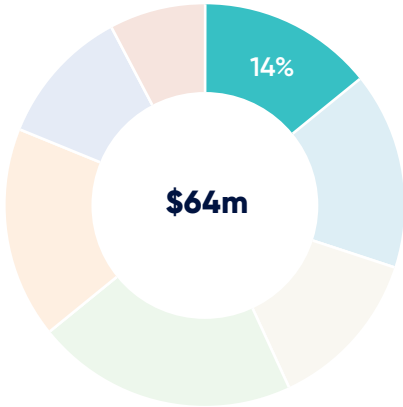
- a The Australian dairy industry is trusted and accepted by the community
- b Australian dairy is valued for superior health and nutrition benefits
- c The Australian dairy industry is committed to animal wellbeing



Our projects, activities and services	Strategic outcomes		
	3a	3b	3c
Health and nutrition	●	●	
Consumer marketing	●	●	●
Schools engagement	●	●	●
Non-replacement Calf Pathways	●		●
Industry Sustainability Framework	●	●	●
Healthy Ageing with Dairy: aged care sector and older adults scoping		●	
DairyHIGH 2 – NRDC welfare research and development	●		●

Investment

Dairy Australia investment 2021/22 **\$9m**



External investment 2021/22 **\$0.4m**

Key funding partners	Contribution
Lemnos Foods Pty Ltd	\$0.15m
University of Sydney	\$0.15m

Key partners

- Sustainability Framework Consultative Forum
- Global Dairy Platform, International Dairy Federation, Sustainable Agricultural Initiatives
- Industry representative groups – Australian Dairy Farmers, Australian Dairy Products Federation, state dairy farming organisations
- Milk processors and retailers
- Nutrition Policy Reference Group

Performance summary

Significant marketing campaigns were delivered across a range of media channels, including the Buy, Support, Enjoy Aussie Dairy campaign (to drive support for Australian dairy), and a campaign targeting the aging population that leverages the fractures trial. The schools' program and partnership with Life Education was further leveraged, with work to launch 'virtual reality' in 2022/23. Farm ambassadors were trained and were active in championing the industry, with further plans to scale in 2022/23. Ten years of the dairy industry Sustainability Framework was celebrated on World Milk Day. Overall trust in dairy has softened and this will inform a strong sustainability marketing focus (including Gen Z) for 2022/23 and beyond.



STRATEGIC OUTCOME 3A

The Australian dairy industry is trusted and accepted by the community

The Australian community is taking a greater interest in the food they consume and the way it is produced. Trust and resulting acceptance in agriculture, including dairy, cannot be taken for granted. Sustainable production of dairy foods requires a demonstrable commitment to people, animal care and the environment. This commitment includes understanding and staying ahead of community expectations and working with industry to set targets and measure progress at a national and global scale.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
The community trusts the dairy industry	79% of community	75%	75%
Farmers actively promote the industry	60% of farmers	31%	25%
Consumers prefer to buy Australian made or locally produced dairy products wherever possible	85% of consumers	81%	83%
Consumers agree dairy farmers do a good job caring for the environment	75% of consumers	64%	62%
The Sustainability Framework is recognised, supported and trusted as providing evidence of industry's commitment to sustainable dairy practices	80% community representatives on the consultative forum	70%	82%

Key achievements

- Supported Australian Dairy Farmers and Australian Dairy Products Federation with technical knowledge and evidence at the Senate Inquiry on 'Definitions of Meat and Other Animal Products'. As a result, the Senate committee has recommended that Food Standards Australia New Zealand (FSANZ) initiate a review in consultation with industry, of the FSANZ Code and recommend exempting its application to named meat, seafood and dairy category brands.
- Promoted taste and use of Australian dairy through a national Buy, Support, Enjoy Aussie Dairy campaign that appeared across TV, radio and digital advertising channels. The campaign was recalled by 40 per cent of the target audience, with 66 per cent of those taking action as a result, including incorporating more dairy into their diet.
- Farmer ambassadors supported over 50 marketing initiatives through media opportunities, social media, virtual classrooms, school incursions, community events and on-farm activities.
- Over 870,000 school students were reached through Dairy Australia's school program. Initiatives included the Picasso Cows primary school program, Discover Dairy online curriculum hub, virtual classrooms, and partnership with Life Education Australia.
- Ten years of the Australian Dairy Sustainability Framework, the first industry-wide framework for an agriculture sector globally, was celebrated on World Milk Day. The dairy sector's sustainability achievements and ambitions for the future were highlighted through a video and report which was shared through social and traditional media.

STRATEGIC OUTCOME 3B

Australian dairy is valued for superior health and nutrition benefits

There continues to be differing opinions about the role of various foods for good health and nutrition which compete with established science-based advice. Consumers require access to information that supports their ongoing consumption of healthy and nutritious foods.

There is an opportunity to further increase the strong support for dairy products and the industry and continue to reinforce the reasons to consume and buy Australian dairy.

The voice of farmers is essential to convey pride in their industry and to speak positively about being in dairy.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
The community trusts dairy as a wholesome and healthy food	87% of community	83%	85%
Consumers hear positive health messages about dairy foods from health professionals	86% of consumers	86%	95%
Consumers make an effort to consume dairy every day	55% of consumers	49%	44%

Key achievements

- Launched results from the Fractures Trial research – a study that was led by Dairy Australia with contributions from nine other global organisations and published in the British Medical Journal. The research found that by increasing dairy serves from an average of 2 to 3.5 serves per day in the aging population, led to a 33 per cent reduction in all fractures, a 46 per cent reduction in hip fractures, and an 11 per cent reduction in falls.
- Educated older Australians and health professionals about the Fractures Trial research and the importance of getting enough dairy through an advertising and public relations campaign across radio, podcasts, digital advertising, content partnerships and webinars. The research results were also shared via digital screens in 450 medical centre screens nationally reaching over 5.5 million people.
- Promoted the health benefits of dairy for strong bones and muscles through a national Buy, Support, Enjoy Aussie Dairy campaign that appeared across TV, radio and digital advertising channels. The campaign was recognised by 41 per cent of the target audience, with 72 per cent of those agreeing that dairy foods play an important role in a healthy balanced diet.
- Dairy Australia partnered with Life Education Australia to develop a Bone Augmentation technology being used in Healthy Harold vans nationally to educate Australian students about the health benefits of dairy consumption. The technology launched in 2022 with 30,000 students participating in a lesson using the new augmented bones resource over terms one and two.

STRATEGIC OUTCOME 3C

The Australian dairy industry is committed to animal wellbeing

The wellbeing of animals is critical to the Australian dairy industry. Appropriate care for our animals is not only essential to the success of every farming business, it is our moral responsibility. There is opportunity to continue to improve our practices, report transparently on how we are progressing, and identify where we need to do more to ensure industry practices align with community values.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
The community believes the dairy industry meets their expectations in doing the right thing	77% of community	73%	68%
The community agrees that dairy farmers do a good job caring for their animals	80% of community	74%	71%

Key achievements

- A farmer survey has been conducted to explain factors influencing farmer decision-making about beef bull selection, such as calving performance, carcass qualities and trade-offs.
- Recruited seven commercial dairy farms per year over two calving seasons to participate in dystocia (an abnormal or difficult birth) research. Research will compare the incidence of dystocia and perinatal mortalities of artificial insemination beef mating to those of dairy bulls and to assess the relationships between farming management, sire selection, cow characteristics and incidence of dystocia.
- Answered 30 questions related to animal welfare have been submitted via the You Ask, We Answer platform on the Dairy Matters website, with a focus on the life of a dairy cow and cow calf separation.



Health and nutrition outcomes

Objective

More than six million Australians are living with bone health problems. With Australians living longer, we can expect an increased prevalence of malnutrition, loss of musculoskeletal mass, and bone fragility that increases the risk of falls and fractures in the future. Around 30 per cent of all hip fractures occur in aged-care residents and around two-thirds are malnourished or at risk of malnutrition.

Contributing to this is that 99 per cent of older Australians are not getting enough dairy in their diet – with this population typically consuming less than half the amount recommended in the Australian Dietary Guidelines.

Action

To help address this Dairy Australia, supported by grants from nine global dairy organisations and three philanthropic organisations, initiated research to improve health outcomes in the elderly through the simple intervention of increased dairy.

A Randomised Control Trial was undertaken by the University of Melbourne with 60 aged-care facilities. Over 7000 residents took part in the study over two years. Half of the facilities continued with their regular menu and the other half increased their serves of dairy from an average of two to 3.5 serves per day.

The study, published in the British Medical Journal in October 2021, found a 33 per cent reduction in all fractures, a 46 per cent reduction in hip fractures, and an 11 per cent reduction in falls in the group that increased dairy. The trial provided compelling evidence that provision of dairy foods is a safe, low cost, palatable, widely available approach to reduce the incidence of fractures and falls in the community.

Following publication of the research a communication campaign was launched to drive awareness of the results with consumers over 65 years old and health professionals including GPs, dietitians, and nutrition key opinion leaders. The campaign was delivered from October 2021 to June 2022 and included earned media, a webinar targeting health professionals, advertising across radio, podcasts, digital advertising and content partnerships, and displays in medical centres.



Case study

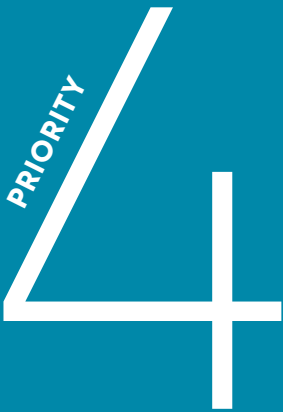
Impact

The campaign successfully contributed to raising awareness of the Fractures Trial and the importance of increased dairy in the diet of older Australians for improved bone health. Some of the campaign highlights included:

- 131 pieces of media coverage, in key media titles across health, senior, news and lifestyle sectors, reaching over 8 million Australians.
- Radio advertising in metropolitan areas reached 72 per cent of the consumer target audience.
- Digital advertising, which included sponsored advertorials, articles, and digital display across the national mastheads of Nine Publishing, saw strong engagement and click-throughs by readers. Messages were further amplified through content with The Good Food website (which received over 10,000 page views), and The Guardian (receiving 18,246 page views).
- Advertising was delivered on screens in 450 medical centre screens nationally reaching 5,543,672 people.
- A drivetime radio podcast, which comprised of an 11-minute interview and a bespoke content piece, saw 2,664 general practitioners engage with the dairy interview online and a 44 per cent open rate for the electronic mail.

- General practitioners were also engaged with advertorial content that appeared across Australian Doctor, spending an average dwell time of 2.5 minutes, indicating they were taking the time to read through the content. A content piece sponsored through the InSight+ newsletter in the Medical Journal Australia delivered an open rate of 37 per cent and generated 233 unique views.

The key messages established from the campaign continue to be integrated in future marketing campaigns, and the research results used to drive change in aged care settings and older Australians living in the community.



Thrive in a changing environment

Goal

Profitable farm businesses that adapt to the changing natural environment and provide good stewardship of resources

Strategic outcomes

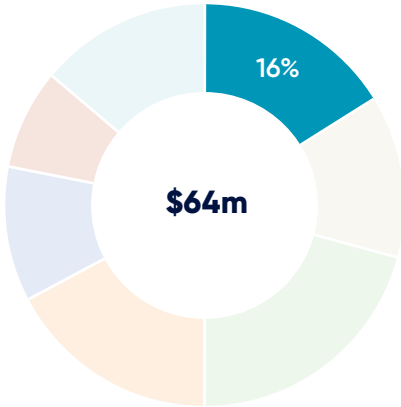
- a Greater ability to adapt to changes in the natural environment
- b Efficient and profitable use of land, water, carbon and energy resources which nurtures and sustains the natural environment
- c Proactive action to reduce global warming and greenhouse gas emissions



Our projects, activities and services	Strategic outcomes		
	4a	4b	4c
Adapting dairy farm systems	●		
Forewarned is forearmed	●	●	
Sustainable dairy products (NLP Smart Farms)		●	
Supporting manufacturing sustainability	●	●	
DairyHIGH 2		●	●
DairyFeedbase – Cool Cows	●		●
A circular economy for silage wrap		●	
Climate Change Adaptation Pathways for Dairy	●		
Adapting to Climate Change on Dairy Farms	●		
C4Milk	●		
DairyBio – Environment	●	●	●
National Pasture Genebank	●		
Measuring emissions intensity at dairy farm and industry scale			●
Updated marginal abatement cost curve			●
Building capacity in effluent system design for dairy		●	
Building advisory capability in nutrient management planning		●	
Determining the benefits of mixed species pastures in a changing climate		●	
Dairy Food Waste Action Plan		●	●
Dairy manufacturers workforce webinars		●	

Investment

Dairy Australia investment 2021/22 **\$9.9m**



External investment 2021/22 **\$2.9m**

Key funding partners	Contribution
Gardiner Foundation	\$1.8m
Department of Industry, Science, Energy and Resources	\$0.3m
Sustainability Victoria	\$0.13m

Key partners

- All research and development corporations (RDCs)
- Dairy farmers, manufacturers and service providers
- Australian Dairy Farmers Natural Resource Management Policy Advisory Group
- Dairy Manufacturers Sustainability Council
- Federal and state governments, including National Landcare Project
- Bureau of Meteorology

Performance summary

There are significant gaps in our investment in greenhouse gas mitigating initiatives. In 2022/23 we will maximise existing investment options and explore new ones, including an 'open call' for new technology or existing initiatives that would benefit dairy farmers. Other projects within this portfolio are on track, with the exception of delays and editing of some learning materials which will be a focus in 2022/23.



STRATEGIC OUTCOME 4A

Greater ability to adapt to changes in the natural environment

Dairy has immediate and substantial risks from the impacts of climate variability, far more so than our competitors. Pressures from changes to the natural environment are wide-ranging, from restricted access to water, to more extreme climatic events and less secure access to nutrients and feed sources. These pressures will increase with predicted impacts from climate change and require innovation to counter these pressures.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Farmers have access to enough information to understand the impacts of changes in the environment	90% of farmers	74%	70%
Farmers have the right information and skills to thrive in increasingly volatile climatic conditions	95% of farmers	84%	89%

Key achievements

- Finalised the second edition of the National Guidelines for Feedpads and Contained Systems. The published version of the report is expected to be released late October 2022 to support Australian farm businesses with intensive system decision-making. The new guidelines are a step change in the underpinning science and engineering/systems operation knowledge compared with the first edition. A feature of the second edition is the gradual incorporation of state-based planning requirements, starting with those required in Victoria.
- Hosted the Raising the Roof event hosted in Echuca in May which was well received by participants and proved to be an unprecedented networking event for farmers and service providers. Of the 220 attendees approximately 75 per cent were farmers either considering a shift to, or currently operating, intensive farm systems.
- Completed and launched five new and improved extreme weather forecasting tools on the BOM website. Farmers now have access to more accurate and relevant forecasting tools.
- The Dairy Feedbase – Feeding Cool Cows preliminary analysis shows greater dry matter intake, greater milk yield and greater body temperature in cows offered the low fibre forage compared to the high fibre forage. Biometric analysis shows improved milk yield and lower body temperature in cows fed chicory compared to pasture silage, despite similar dry matter intake and lower metabolisable energy intake. In addition, Betaine can be useful for controlling body temperature while maintaining feed intake and milk yield, while oil and fat supplements also had a role to play during hot weather. Lower NDF (fibre) concentration in the diet reduces body temperature during heat exposure periods.
- Completed Dairy Businesses for Future Climate case study in New South Wales, part of the DairyUP (NSW) program of 10 associated projects.
- Climate extension material and recently completed research was reviewed to inform region-specific climate adaptation and farm emission reduction programs.
- Developing four new climate online learning modules and videos are to help farmers understand and minimise climate risks to their businesses.
- DairyBio animal program research has enabled DataGene to introduce a new standalone breeding index called the Sustainability Index for Australian Breeding Values. This allows farmers to make breeding decisions with the aim of reducing their herd's emissions intensity while supporting productivity. It is the third breeding index available to our industry.
- The Sustainability Index is one of many tools dairy farmers can now use to achieve the industry's commitment of a 30 per cent reduction in greenhouse gas emissions intensity across the whole industry by 2030.
- Assembled germplasm collections of elite, market leading cultivars for the warm season grasses. Screening for tissue culture responsive (TCR) lines is in progress and on track. A broader collection of germplasm for short term ryegrass has also been assembled and screening for TCR lines is in progress and on track. Results are encouraging for short-term ryegrass.
- The Australian Pastures Genebank funding Research and Development Corporations, including Dairy Australia, sought a business case during 2021/22 from the current genebank provider (South Australian government) and an alternate provider. The intent of seeking these business case proposals is to ensure that the Australian Pastures Genebank fulfils its important functions in a way that incorporates new genetic material assessment techniques while maintaining efficiencies in archiving and genebank collection renewal. A decision on the future provider of the Australian Pastures Genebank shall be concluded in 2022/23.

STRATEGIC OUTCOME 4B

Efficient and profitable use of land, water, carbon and energy resources which nurtures and sustains the natural environment

Future success depends on efficient use of natural inputs with a focus on land, water, carbon and energy. This efficiency needs to be considered over a longer term in a way that nurtures and sustains the natural environment and is profitable for dairy businesses.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Dairy farm businesses have adopted technologies and management practices to achieve land, water, carbon and energy efficiency	70% of farmers	66%	45%

Key achievements

- Building an environmental standards checklist, report and action plan is underway. Online learning modules will provide an integrated learning experience for farmers looking to understand their environmental performance relative to other farms in their region and nationally, and improve their environmental practices.
- Launched the Australian Dairy Sustainable Packaging Roadmap to 2025 in October 2021. It is the first of its kind globally for the dairy sector, endorsed by the heads of 13 Australian dairy companies, three major retailers, Dairy Australia, Australian Packaging Covenant Organisation and Australian Dairy Products Federation.
- Environmental performance data collected from members of the Dairy Manufacturers Sustainability Council for the 2021 Australian Dairy Manufacturers Environmental Scorecard shows that the industry has reduced manufacturing greenhouse gas emissions intensity by 25.5 per cent since 2010/11 and waste-to-landfill intensity by 41 per cent over the same period.
- Refitted the Tasmanian Institute of Agriculture dairy farm across 2022/23 setting up four farmlets in preparation for delivery of the DairyHIGH 2 study experiments over the coming financial years. This included paddock irrigation capital works and other infrastructure for the solid set irrigation system. In addition, a new 50 stand rotary dairy and associated infrastructure for multi-herd handling has been completed. All farmlets have completed pasture establishment.
- Completed Phase 1 of Dairy Australia-led project to develop a collection and recycling system for silage plastic (operational feasibility study). Critical stakeholders have been briefed on the project and have given in principle approval to proceed.
- Commenced the regional pilot study for silage plastic recycling scheme in western Victoria with 80 farms provided the required infrastructure to commence collection of silage plastics. Three shire councils including Moyne, Corangamite and Colac Otway Shire councils are supporting the trial and will act as collection points for the silage plastic. Multiple plastic re-processors have been identified and agreed to take on the collected silage plastics from the recycling trial.
- C4Milk concluded its multi-year, research project in this year finalising four main elements. The outcomes of this, Queensland RD&E resulted in 188 documented practice changes on commercial farms to date with estimated benefits to the industry totalling \$20,427,914.
- Outcomes of C4 Milk research represents an increase of 4.37 c/L in the margin over feed costs (MOFC) across the subtropical dairy region. In addition, the Dairy Beef Development project is estimated to have been relevant to 55 per cent of farms in the subtropics, with a projected benefit of 0.8 c/L, equating to \$607,670 across the region.
- Delivered the Effluent Design Training course with 15 service providers satisfying all course assessment requirements. As a result, there are more service providers capable of delivering effluent plans for farmers. The course has been extended for another 12 months to meet the demand.
- Secured Gippsland and west Victorian study sites for new research examining the performance of mixed-sward pasture systems during early 2022 with soil sampling and pasture cages installed. Analysis is progressing to inform the benefits of a mixed pasture approach.
- In Q4 the Dairy Sector Food Waste Action Plan project provided the industry with the first baseline account of food waste occurring across the Australian dairy supply chain. It highlighted key waste streams of concern, where they occur, and in what volumes. Work with key industry stakeholders is ongoing to undertake detailed root cause analysis for these waste streams and develop a range of practical and commercially realistic solutions for reduction.
- The dairy manufacturers workforce webinar program, fully funded through a partnership with the University of Melbourne Dairy Innovation Hub, delivered 30 webinars in 2021/22. Presenters included dairy experts from the US, UK, New Zealand, Ireland, and Denmark. The webinar program also offered a platform for Dairy Australia staff to showcase their programs to this manufacturing group.
- Post-webinar surveys of attendees showed that 100 per cent of respondents indicated that they had gained valuable insights they would apply within their business. The average user rating regarding the value of the webinars as 8.6/10, while the average user rating of how likely they would be to recommend this activity to a colleague was 9.2/10.

STRATEGIC OUTCOME 4C

Proactive action to reduce global warming and greenhouse gas emissions

The dairy industry has committed to being part of the solution to global warming. This will require a reduction in greenhouse gas emissions, especially in the farm sector. Investment is required to identify commercial solutions.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Dairy farm businesses generating renewable energy	85% of farmers	61%	67%
Dairy farm businesses have access to and have adopted commercial solutions for reducing on-farm emissions	40% of farmers	17%	15%
Dairy farm businesses understand their carbon footprint	60% of farmers	18%	10%

Key achievements

- The Australian Dairy Carbon Calculator has been updated to version 5 and reflects the latest climate science in addition to recognising the proportion of dairy animals used within beef supply chains.
- The updated Marginal Abatement Cost Curve will support farmer and Dairy Australia decisions on key available and near-future options to reduce greenhouse gas emissions on farm.





Adapting dairy farming systems

Objective

The Australian dairy industry is currently in a state of unprecedented and rapid transformation with numerous dairy businesses adapting their dairy farms to manage evolving feedbase and climatic pressures. These changes are set to continue, impacting animal and plant performance into the future.

This project aims to provide farmers (and their advisers) access to robust and evidence-based information to support their decision-making as they contemplate change in the areas of feedbase alternatives, feeding and housing cows, supporting decision making to mitigate risks before any capital is invested; specifically providing strategic industry recognition and support for the farmers currently using or intending to move to any form of intensive feeding and/or housing system.

Action

The project has built resources and processes to provide world class, science-based, actionable information providing a path to change for farms contemplating a new, more intensive, dairy farm system.

- **Technical review of alternate feedbase, forage options and herd management infrastructure**

This review assessed published material, primarily from Australia, on feedbase options for dairy systems other than pasture. It also reviewed Australian and overseas information on feeding and herd management infrastructure.

- **Economic and risk analysis of intensive feed systems**

An economic and risk analysis of dairy farm systems transitioning towards intensive total mixed rations was undertaken to increase the understanding of the factors contributing to making these systems more profitable and identified risk mitigation options. Part of the importance of this work is to illuminate the range of system performance, between farms within year and across years within an individual farm.

- **National Dairy Guidelines – Feedpads and contained systems**

The second edition national dairy guidelines cover a range of topics offering dairy farmers a world's best example of a published resource to inform best management practice feeding and housing system infrastructure design including associated componentry.

- **Decision support process digital tool**

This project element is the final major piece of investment describing a multi-stage process which can be self-guided or, ideally, used as part of a consultation approach with a competent adviser to inform feeding and housing system investment decisions. The digital tool supports a farm business to assess, through a logical framework, the viable options for a new production system incorporating feeding or housing infrastructure. While similar resources can be found overseas, they are considered crude in design compared to the digital decision tool currently under construction.



Case study

Impact

Awareness of the adapting dairy farming systems portfolio was elevated at an inaugural national intensive farm system event Raising the Roof. This highly successful event supported farm and advisor decision-making around feeding and housing infrastructure. Messaging focussed on the importance of planning, having the right stakeholders at the table and having the right information up front to support investment decisions. The two-day event brought together over 220 attendees, 75 per cent of which were farmers from around Australia with an interest in intensive farm systems.

Event programming ensured first-hand exposure to progressive thinkers and modern operators of intensive farm systems within the Goulburn Murray Irrigation District and beyond with global leaders incorporated into the program. The diverse audience facilitated the establishment of a national and global support network of like-minded farmers and service providers to guide thinking. Importantly, detailed case studies of farmers who had already transitioned to intensive feeding and housing infrastructure were captured and shared, providing investment and operational insights to guide the thinking of farmers considering feeding and housing farm system change.

New industry resources developed by the Adapting Dairy Farm Systems project were also showcased at the event, including the national guidelines, economics of intensification and the decision tool supporting farmers pathway to decision-making and ultimately the adoption of feeding and housing infrastructure farm system changes.

PRIORITY

5

Success in domestic and overseas markets

Goal

Improved access to high-value dairy markets, backed by trusted market insights and a favourable regulatory and policy environment

Strategic outcomes

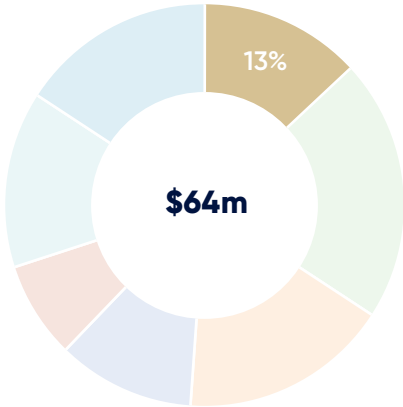
- a Australian dairy is valued around the world for its premium products
- b A favourable policy and regulatory environment
- c Access to trusted market insights that inform decision-making



Our projects, activities and services	Strategic outcomes		
	5a	5b	5c
International Trade Messaging Implementation	●		
International Market Development	●		●
India Market Development	●		
Market access and policy		●	●
Industry insights and analysis			●
Technical policy support		●	●
National Bulk Milk Cell Count statistics	●		
Veterinary Investigation Residue Management	●		
Dairy Export Assurance Project	●	●	
Package Assisting Small Exporters 2	●		

Investment

Dairy Australia investment 2021/22 **\$8.3m**



External investment 2021/22 **\$2.3m**

Key funding partners	Contribution
Department of Agriculture, Water and the Environment	\$1.7m
Department of Jobs, Precincts and Regions	\$0.6m

Key partners

- Australian dairy manufacturers and exporters
- Dairy representative organisations – Australian Dairy Farmers, Australian Dairy Products Federation, State Dairy Farming Organisations
- Federal and state governments

Performance summary

The shrinking Australian milk pool and constant news around seasonal challenges has hurt Australia's reputation as a reliable supplier of dairy. This has been further hindered by an inability to travel during COVID-19 into overseas markets, limiting Dairy Australia's ability to influence the perception of Australian dairy with key international customers. The Thrive Together campaign, launched towards the end of 2021/22, will help harness the messages around Australian dairy and improve the metrics around Australia being viewed as a preferred supplier in overseas markets.

Dairy Australia continues to be viewed positively for its work in the policy and market insights areas, particularly relating to the work around biosecurity where the Lumpy skin disease (LSD) and Foot-and-mouth disease debate. This will remain a priority in 2022/23.



STRATEGIC OUTCOME 5A

Australian dairy is valued around the world for its premium products

Favourable trade arrangements are linked to recognition that Australian products are premium in terms of food safety, provenance and meeting tight product specifications.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
	% of surveyed customers		
Australian dairy products are nominated as preferred status by customers in the key markets of Japan, Greater China and Southeast Asia	Japan – 70%	50%	56%
	Greater China – 60%	40%	46%
	Southeast Asia – 60%	62%	58%
Australian dairy makes tangible market access gains in all completed trade negotiations involving Australia	All	100%	100%

Key achievements

- Successfully launched the Thrive Together trade messaging campaign in partnership with the Victorian Government. The launch was well attended by industry with broad domestic media coverage.
- The Dairy Australia campaign landing page has received over 50,000 unique visitors since Thrive Together went live in mid-August 2022.
- International campaigns have already included online presentations to the dairy trade via leading trade fairs in China, SIAL (40,000+ audience) and to Food and Hospitality Asia (35,000+ audience).
- The National Bulk Milk Cell Count (BMCC) statistics report, which includes data from 4,300 farms and all major processors, indicated that, overall, national milk quality in terms of BMCC was high, with 86 per cent of farms having an average annual BMCC of below 250,000 cells/ml and only 0.4 per cent of farms with an average annual BMCC of greater than 400,000 cells/ml. The report indicated significant opportunities for improvements in milk quality in Queensland and New South Wales.
- Dairy Australia enhanced its database of registered dairy processors and embedded this information into the Who Makes What database. This will allow for enhanced profiling of dairy processors by factors such as size, region and direct supply.



Case study

Thrive Together

Objective

In 2021/22 Dairy Australia developed Thrive Together, a new brand proposition for international markets which brings clear, consistent messages to our global customer base, emphasising trusted partnerships and strengthening the profile of Australian dairy overseas.

With exports accounting for 32 per cent of our milk production (2021/22) high returns from global trade and increasing consumer demand across Asia, international markets continue to be important for Australian dairy. Anticipating the need for exporters and industry stakeholders to get back into international markets after COVID-19 border closures, a focussed, contemporary look for Australian Dairy was developed, with an exporter toolkit and set of videos showcasing our uniquely Australian attributes and strengths.

Action

Dairy Australia has always provided quality analysis to our international customers which continues to be highly valued and is the backbone of our industry insights. However, to refresh and refocus our market development efforts, we sharpened our messages with a new brand proposition, Thrive Together, which speaks to Australia's commitment to building true partnerships where everyone prospers, from our farmers to our valued customers around the world.

Thrive Together is built on key messages that reinforce our position as a trusted, agile and reliable supplier of high-quality, safe and nutritious dairy products. The design and messages bring a fresh, consistent and distinctly Australian look and feel to promotions overseas.

We know that our international audiences are keen to hear the voice of the farmer, know their stories and see their passion for their work. We have endeavoured to bring this out in video clips that showcase the industry.

These videos form part of the exporter toolkit which processors can use as they market Australian internationally. The exporter toolkit includes fact sheets, videos, images for social media, food safety information and this will continue to be built out in 2022/23.

Impact

The Thrive Together marketing platform was launched on 29 June 2022, co-funded by the Victorian Government. The national launch event attracted a strong in-person and online attendance from both industry and government. We were pleased to hear from processors and farmers, via a panel discussion, about the importance of trade and the potential of Thrive Together to strengthen Australian dairy exports.

To underpin Thrive Together, digital and print campaigns were rolled out across Asian markets to reinforce our positive messages and points of difference with competitors. Digital banner advertisements, trade magazines articles and online presentations at major international trade fairs were all part of the education and awareness raising campaign package. As of the end June 2022, the Dairy Austrade website reflected the immediate interest from the launch. Further outcomes from the campaign will be reported in 2022/23.

With Thrive Together, the Australian Dairy industry has a brand platform for China, Japan and Southeast Asia which is supported by a clear proposition, fresh information on key topics of interest and contemporary images. Importantly, Thrive Together complements our industry analysis and puts a renewed focus on trusted partnership, positioning Australian dairy exports strongly in our key markets into the future.

STRATEGIC OUTCOME 5B

A favourable policy and regulatory environment

Credible and fact-based insights matched with incisive policy analysis and broad industry backing are powerful tools to create a favourable policy and regulatory environment.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Industry and government stakeholders that use policy related services value the work of Dairy Australia to inform policy discussions	100% of stakeholders	100%	100%
Stakeholders that use market access related services value the work of Dairy Australia to help ensure access to markets	90% of stakeholders	81%	82%

Key achievements

- The UK Free Trade Agreement (FTA) (December 2021) opens new market access for Australian dairy exporters to the United Kingdom.
- For Australian producers the establishment of three tariff rate quotas (TRQs) provides immediate duty-free access for substantial volumes of all chapter 4 dairy products – milk, cream, yoghurt, whey, butter and cheese. Additionally, the FTA provides substantial access improvements in non-chapter 4 dairy products, such as ice cream and infant formula.
- Phased out calving induction in the in the Australian dairy industry (January 2022 deadline achieved) along with an ongoing support mechanism (Dispensation Panel) to ensure access to exceptional and emergency circumstances.
- Worked with ADF and ADPF, to developing biosecurity preparedness measures for Australia with Animal Health Australia (AHA). Two key documents in the process of approvals at this time (March 2022) are the Dairy Enterprise Manual, which thoroughly describes the function of the Australian dairy industry (farms, milk movements etc.) for use in a possible Emergency Animal Disease incursion, and the Lumpy Skin Disease manual, which describes the proposed actions if LSD is found in Australia. This work has been accelerated given the emerging biosecurity threat posed by the discovery of LSD in Indonesia.
- Carbon markets: delivered farmer seminar on market participation and due diligence advice.
- Delivered a fully functional 'Welcome Pack' for potential dairy exporters that equips the Department of Agriculture with a fresh and innovative introduction gateway for dairy exporters.
- The Industry Engagement project under the Dairy Exports Assurance Program (DEAP) program has collated detailed input from more than 30 dairy exporters. Feedback was channelled directly to the Department, providing valuable industry perspectives on where reforms can be made to dairy export audits and approval processes.



STRATEGIC OUTCOME 5C

Access to trusted market insights that inform decision-making

The Australian dairy supply chain is characterised by a sophisticated collection of market data that is readily available to support decision-making by industry and government stakeholders.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Dairy Australia is considered by industry stakeholders as the most trusted and credible source of information to inform decisions related to dairy markets	85% of stakeholders	81%	86%
Dairy Australia's market information is widely utilised by industry and government stakeholders	90% stakeholders utilising Dairy Australia market analysis or data	86%	96%
Dairy Australia is considered as the most trusted and credible source of dairy market information by the media	200 annual dairy market related media articles referencing Dairy Australia analysis or data	153	157
Dairy Australia maintains and grows its access to industry milk production data to inform market analysis	95% of milk production	92%	94%
Dairy Australia maintains and grows its access to industry domestic sales data to inform market analysis	90% of domestic market sales (liquid milk, cheese, butter and yoghurt)	81%	81%
Dairy Australia maintains and grows its access to industry manufacturing production data to inform market analysis	90% of manufacturing production data	82%	87%

Key achievements

- Commissioned and supported a comprehensive study of the economic contribution of the dairy industry. The report has generated significant interest and is being leveraged to quantify dairy's economic benefit to the wider community.

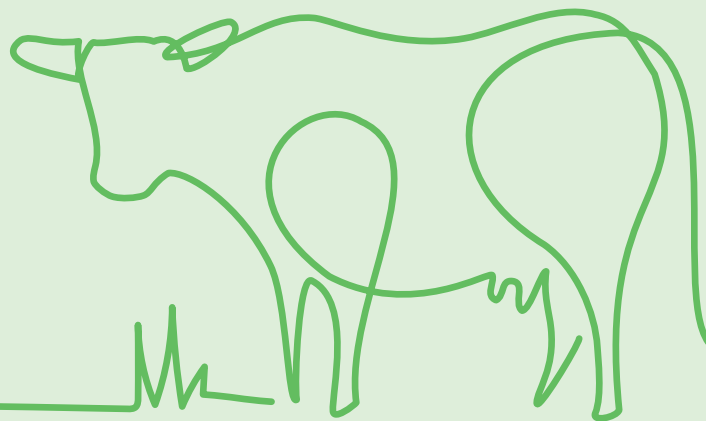


Technology and data-enabled dairy farms

Goal Inspire more agile and responsive dairy businesses through greater integration of technology and data

Strategic outcomes

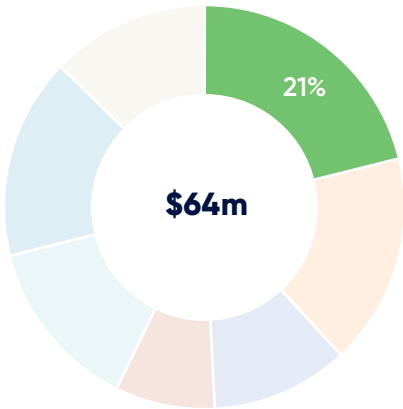
- a Accelerated genetic progress in feedbase and animal breeding
- b More flexible and agile dairy production systems
- c Greater use of high-value technology on-farm
- d Connected dairy production systems utilising multiple data sources to enhance decision-making



Our projects, activities and services	Strategic outcomes			
	6a	6b	6c	6d
DataGene	●		●	●
DairyBio – Technology	●	●	●	●
DairyFeedbase		●	●	●
Supporting industry to invest and operate Automatic Milking Systems successfully			●	●
Smarter Irrigation 2		●	●	●
Accelerating Heifer Genomics	●	●	●	
Forage Value Index		●	●	●
Unlocking the potential of the cow		●		●
Unlocking the potential of Kikuyu	●	●		
Clinical Mastitis treatment decision tool			●	●
Access to AgVet chemicals		●		

Investment

Dairy Australia investment 2021/22 **\$13.5m**



External investment 2021/22 **\$2.1m**

Key funding partners	Contribution
Gardiner Dairy Foundation	\$0.9m
Cotton Research and Development Corporation	\$0.6m
Department of Agriculture, Fisheries and Forestry	\$0.3m
DairyNZ	\$0.26m

Key partners

- DairyBio and DairyFeedbase investors and commercial partners
- Gardiner Dairy Foundation
- DataGene
- Queensland Government with C4Milk
- Tasmanian Institute of Agriculture for DairyHIGH
- Other RDCs and commercial partners in Smarter Irrigation
- NSW Department of Primary Industries and De Laval for Milking Edge

Performance summary

Significant progress has been made within this portfolio as projects such as Smarter Irrigation for Profit 2 finish and focus is placed on adoption and practice change. Improving reproductive performance has also been a focus with next steps and recommendations discussed.

Across our major R&D investments within this portfolio there is confidence we will meet the 2024/25 targets as the feedbase options and systems begin to come through. To measure the success properly we will need to ensure an effective mechanism to log the new options available to farmers.

2021/22 was the final year of a five-year investment for Dairy feedbase. In 2022/23 there will be a renewed national approach to ensure strong alignment between Dairy Feedbase, C4 Milk, DairyHIGH and DairyUP.



STRATEGIC OUTCOME 6A

Accelerated genetic progress in feedbase and animal breeding

Genetic improvement remains a major productivity driver on-farm due to its ability to deliver permanent and cumulative gains in performance. Further innovation in genetics (including the expanded use of genomics and new breeding methods) will accelerate genetic gain as well as broaden the range of traits and species/breeds that can be improved.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
The rate of genetic gain in pasture species	>2% genetic gain	<1%	2.5%
Usage of Forage Value Index to select grass pasture varieties sown	25%	9%	28%
The rate of genetic gain for sires of cows in Balanced Performance Index (BPI) units	\$30/year	\$24/year	\$29/year
The rate of genetic gain of cows in BPI units as a result of heifer genomic testing	\$25/year	\$18/year	\$14/year

Key achievements

- Released Red Breed Genomics using Single Step methodology in late 2021. In addition, extension work using the Accelerating Genomics resources rolled out alongside the ABV Discovery Day in early 2022.
- Field testing of new experimental F1 hybrid ryegrass varieties and genomic sub-selection populations continued to significantly outperform reference control commercial checks in seed industry run trials in Australia. The F1 technology has been handed over to the Barenbrug for commercial development and future release.
- DairyBio have put substantial effort into improving male fertility with an outcome being an updated version of a model now in the process of being implemented by DataGene. The new model includes pedigree information. An advantage is that it is possible to identify extremely sub-fertile bulls at an earlier age.
- The focus of 2021/2022 in the genomics area was to develop and roll out extension offerings tailored to farmers stage of adoption. This was based on qualitative research from the previous financial year where 17 farmers, handpicked for their industry influence, were interviewed to understand their barriers and motivators for adoption of heifer genomics. These three extension offerings (Genomics at a Glance, pre-contemplative; Genomics in Practice, ready to test; and Genomics in Action, already testing and wanting to maximise value) were developed, piloted and transitioned to business as usual this financial year.
- Participants in these heifer genomics programs rated them 9/10 for overall value to their farm business, and 69 per cent of participants indicated that they were 'very likely' to make change on farm and 64 per cent indicated they would make change within six months.
- Work on understanding the future potential of 14 novel Kikuyu genotypes is underway with glasshouse and pasture plot studies conducted by the University of Sydney as part of the DairyUP program (NSW). The aim of this work is to assess if one or more of these genotypes may be used commercially in the future to augment the single Kikuyu variety now used by the vast majority of dairy farms in the tropical and subtropical regions.



STRATEGIC OUTCOME 6B

More flexible and agile dairy production systems

Many modern dairy farming systems need to modify their production systems according to seasonal conditions and changes in major input costs. These modifications are more extreme in warmer climates and with less reliable access to water.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Development of new feedbase options that increase flexibility and agility	20 new from baseline	0	0
Development of new non-feedbase system options that increase flexibility and agility	10 new from baseline	0	0
Dairy farm businesses have access to the information and tools that they need to run their chosen farm system	75% of farms	65%	51%

Key achievements

- DataGene and research partners completed the underpinning science to support the release of the Sustainability Index. This index shall become the third breeding index for Australia with a focus on reduced herd emissions while supporting productivity. The First 100 days project (part of the Dairy Feedbase program) includes benefits during the early lactation and the flow on benefits for the full lactation. This incorporated fresh cow period maize feeding with lower fibre legume forages to achieve higher intakes.
- Further Dairy Feedbase research has illustrated that a mix of wheat, barley and canola meal is better than wheat/ barley in early lactation. Analysis has shown that the highest rate of canola meal feeding (3kg DM/cow/day) has provided about a daily milk advantage of 2 kg cow.
- Further research assessed feeding for profit and adjusting feed when profit declines. Typically offering higher producers more early in lactation and removing grain from lower producing cows later in lactation. The key findings have identified potential for additional profit in early lactation, carry over benefits for the rest of lactation and reduced animal health and reproduction benefits of \$98, \$182 and in excess of \$50 respectively.
- The Smart Feeding project (Dairy Feedbase program) identified, in conjunction with commercial herds, the ability to achieve an additional 1.1 litres per cow per day through innovative ways of allocating feed so all cows get similar quantity and quality of feeds with no additional cost.
- Ninety-five per cent of participants in the Smarter Irrigation for Profit 2 program had taken up or were considering taking up technologies such as soil moisture monitoring or irrigation system evaluations.
- The Unlocking the potential of Kikuyu five-year project is part of the NSW DairyUP program and incorporates 10 individual and linked projects. During 2021/22, this specific project successfully established study sites on 14 farms located on the north, mid and south coastal regions of New South Wales. Regionally based study coordinators have been recruited with monitoring and sampling associated with the study commenced.
- Work through this project prepared a successful registration process for a new, post-milking teat disinfection product to enter the Australian market. This product is the first of its type available for Australian farmers where the active ingredient is a residue-free, hydrogen peroxide.
- Through the Commonwealth Access to AgVet chemical grants process, Dairy Australia obtained \$140,000 to undertake the work which will result in the permitted use of the chemical Ethofumesate to control undesirable grasses during the establishment of perennial ryegrass. Supporting studies for this work are now underway.

STRATEGIC OUTCOME 6C

Greater use of high-value technology on farm

Access to on-farm technology is increasing rapidly, while capacity to deliver insights from technology is lagging. Improvement will require a greater understanding of adoption challenges and greater alignment between the technology that delivers insights and farmer preferences for use of insights.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Farm businesses have successfully adopted technology that provides new insights for farm operations	80% of farmers	48%	50%

Key achievements

- Established a development and commercialisation project out of Pasture Smarts research project to deliver a new innovative non-destructive, remote pasture measurement technology to provide DM yield and nutritive aspects in the future.
- To mark the end of the multi-year Milking Edge project, the team hosted the Milking Edge Automatic Milking System (AMS) Farm Showcase in November 2021. On that day, 14 AMS farmers from Australia and overseas, along with service providers and industry experts, shared their experience, knowledge and expertise on robotic milking with 110 attendees.
- The NSW Department of Primary Industries has successfully handed over all developed extension content to Dairy Australia, and our Learning & Development Team transitioned the content in Dairy Australia's Enlight learning platform. This will sustain the extension modules created as part of the Milking Edge project with content remaining accessible for future users. Of note, three pilot courses were run by the project team prior to this handover and 169 people have enrolled in the full eight-module extension suite.
- Key learnings from the three years of the Smarter Irrigation for Profit 2 project have been consolidated into a final report, technical reports and case studies to be extended via inclusion into development work being undertaken across all climate and environment projects and communications campaigns in 2022/23.

STRATEGIC OUTCOME 6D

Connected dairy production systems utilising multiple data sources to enhance decision-making

A proliferation of data will be of value to dairy businesses when it can be integrated and available for generating insights. This will require integration for both on-farm usage as well as to improve service provision. Improved decision-making will need to account for farmer preferences for use of insights.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
New methods of collecting or analysing multiple sources of physical data on farm	5 new from baseline	0	5
Dairy farm businesses are routinely collecting three or more sources of physical performance data for decision-making (e.g. herd testing, pasture measurement, lameness scoring)	80% of farmers	65%	95%
Routine management decisions of dairy farm businesses (e.g. sire selection, irrigation scheduling, culling) are informed by multiple data sources	95% of farmers	92%	80%

Key achievements

- This year, Agriculture Victoria created an updated set of economic values (EV) for the Forage Value Index, which bolsters the economic relevance of data presented in the Forage Value Index tables. This includes, for the first time, EV's for north and south New South Wales in the annual and Italian ryegrass Forage Value Index tables. The EVs have been calculated using a new surplus/deficit market value method, which is an improvement on the original case study method. This new method is considered superior to the previous method used to calculate Economic Values.
- Following on from the publication of the 2022 Forage Value Index tables, Dairy Australia undertook, through the University of Wollongong, a review of the statistical approach used to create the Forage Value Index rankings. This review, now complete, shall be used to enhance the analytical models used for preparing future indexes. This work is undertaken in conjunction with the Forage Value Index Futures team at Agriculture Victoria.
- Unlocking the Potential of the Cow project is part of the NSW DairyUP program which incorporates 10 individual and linked projects in total. The first objective of this specific project was to create better understanding of the risks for cow removal and the factors leading to cow longevity within herd using retrospective data. This project component has been completed setting up study parameters for the prospective work being undertaken on the 14 commercial farm partners in this project.
- Unlocking the potential of the cow has successfully established the database design and path for data extraction from farm across multiple data sources. Data aggregation for the multi-year on farm study with partner farms is being completed in cooperation with DataGene. This work is integral to assessing how the risk factors identified in the retrospective study can be used for early flagging of at-risk cows.
- Farmer-led focus groups were held across the country by Charles Sturt University to understand motivators and barriers to data recording and collection, data enabled decision tools as it applies to mastitis, the clinical mastitis treatment decision process and initial feedback on tool wireframes that were created by DataGene. This work was highly insightful to the clinical mastitis treatment decision tool project and will be published in the peer-reviewed literature.
- Point-of-care mastitis diagnostic tests (e.g. Acumast, Mastatest among others) commenced validation under ASSURED framework by University of Sydney, with mastitis samples being received from a range of farming systems across south-east Australia. The outcome of this research will be clear guidance for farmers and veterinarians considering investment in on-farm or in-clinic rapid mastitis diagnostic tests for improving antimicrobial usage.



Smarter Irrigation for Profit

Objective

Smarter Irrigation for Profit Phase 1 (SIP1) identified potential water productivity and efficiency gains of 20 to 40 per cent by getting the 'irrigation basics' right. Fifty-nine per cent of Australia dairy farmers are irrigators and the Smarter Irrigation for Profit 2 (SIP2): What's my yield gap? Maximising water productivity provided the opportunity to trial technologies and demonstrate irrigation best practice to fast-track adoption of key irrigation principles identified in SIP1.

The objective of SIP2 was to identify the production 'yield gap' on selected dairy optimisation sites and using technologies to inform decisions, decrease the 'yield gap' between modelled yield potential and measured yield. Irrigation system performance, water and energy use, together with pasture productivity at each site provided objective measurement of system performance across the seasons.

Action

Ten dairy optimisation sites were established across the seven mainland dairy regions. Data collection across three irrigation seasons captured changes in water and energy efficiency. Site reference groups, consisting of farmers and private sector providers, provided support for the optimisation site activities.

The research, extension and communication activities at each site were conducted by a locally based Optimisation Site Coordinator.

The site data collection assessed the efficiency and profitability of irrigation practices during the project. Metrics used included pasture and crop growth rates, water use index, energy efficiency. Costs were determined on a per tonnage basis for water and energy use.

Irrigation technologies were implemented to assist the optimisation site farmers with irrigation decisions and to follow the key irrigation principles to maximise water and energy efficiencies, and to close the yield gap. These technologies included soil moisture probes connected to a cloud-based reporting platform; 'IrriPasture' a weather-based water balance irrigation scheduling tool; weather forecasting information; and a satellite-based software package to measure pasture production. Irrigation system evaluations and checks identified pump performance and irrigation system improvements required.

The 'yield gap' was determined using DairyMod to calculate potential yield at each site and compared to the satellite-based production or on ground pasture measurements at each site.

Impact

Throughout the project, farmer confidence to use the implemented technologies increased. Practices such as commencing irrigation earlier in the season; commencing irrigation on time after rainfall; changing application frequency and rate to maintain soil moisture in the optimal zone; improving pump performance; and improving sprinkler pack performance were implemented.



Case study

Large seasonal variation impacted changes made throughout the project, however an average of 47 per cent improvement in Gross Productivity Water Use Index was achieved, with a range of 24 to 181 per cent. The water use efficiency across the optimisation sites ranged from 0.9 to 3 tDM/ML. This range highlights the ongoing opportunity to improve irrigation performance across dairy farms.

The following are specific practice changes and outcomes from selected optimisation sites.

- Using soil moisture monitoring and forecast data to change the application frequency and rate between rainfall events increased yields by 20 per cent and reduced energy costs by 17 per cent.
- Evaluating and upgrading the irrigation system including pump, sprinkler packs and control panel improved pump efficiency from 60 per cent to 88 per cent, reducing energy use from 4.6 to 4.1 kWh/ML/m head.
- Changing from a ryegrass to a lucerne pasture and aligning irrigation practice to lucerne close to doubled growth rates and decreased irrigation costs from \$108/tDM to \$23/tDM.

More than 100 extension activities were delivered to more than 1700 attendees, with 50 per cent of them dairy farmers. Evaluation of these activities showed 91 per cent of participants were likely to change irrigation practices and 81 per cent of these were likely to change within two years. Knowledge improved on average by 1.7 out of a scale of ten. The table highlights the percentage of surveyed participants who changed specific practices because of SIP2 activities.

Practice	%
Changed your irrigation start-up time at the beginning of the season	68
Changed your start-up time after major rainfall events	72
Changed irrigation application rates to reflect available soil moisture and plant requirements	68
Increased productivity under irrigation	80
Become more energy efficient and/or reduced energy costs	44
Become more water efficient and/or reduced water costs	48

SIP2 increased the use of soil moisture monitors with telemetry. Of the 81 per cent of respondents who were not already using this tool, 52 per cent reported they had started using it due to SIP2 and another 43 per cent were still considering it.

The project was supported by funding from Dairy Australia and the Australian Government Department of Agriculture, Fisheries and Forestry as part of its Rural R&D for Profit program.

Forage Value Index

Background

Dairy farmers renovate or re-sow perennial pastures over time as:

- The persistence of existing perennial pasture deteriorates
- Farmers transition paddocks back to perennial pasture after having grown annual species of forage
- Farmers have terminated pastures to undertake farm works such as laser grading or reconfiguration of paddocks.

Dairy Australia commenced the development of the Forage Value Index (FVI) in 2014 and released the first index in 2017. The objective of the index is to improve objective assessment of seed varieties so that higher performing seeds are selected by dairy farmers for pasture sowing which helps to increase pasture productivity and profitability. Higher performing seeds produce more:

- equivalent dry matter
- higher nutrition and feed and higher quality
- greater persistence.

This can be across an entire season or under targeted seasonal conditions.

Activities

Using higher FVI cultivars can create additional farm profit and understanding the change in the level of use of the FVI, was used to estimate the value of the FVI project.

Marsden Jacob conducted a series of workshops with Dairy Australia staff and consultants to define the project logic for the FVI investment and the counter-factual used to value the benefit to farmers. The project logic identifies two key ways in which the development and maintenance of the FVI create incremental benefits for farmers:

- The FVI objectively ranks seed cultivars in terms of their potential to create additional feed relative to a base proprietary seed Victorian Ryegrass bred many years ago by the Victorian Department of Agriculture. The FVI ranking thereby enables to farmers to select seeds based on the potential of them to increase farm profit. Over time, increasing the proportion of seed sales that are higher indexing seeds increases industry profits; and
- The objective ranking of seeds for yield and therefore profit potential over time is likely to increase the selection and release by seed companies of higher indexing seeds to the dairy farmer seed market.

Under the counter-factual, the absence of the FVI would mean there is no transparent objective means for dairy farmers to accurately assess the comparative yield and profitability of different perennial ryegrass cultivars. Additionally, under the counter-factual, seed companies would promote individual cultivars with a mix of trial data that limit the capacity of the market to objectively assess each variety. Further, there would be gaps in information provided for dairy farmers to assess the relative performance of cultivars variety across regions and seasonal conditions.

Benefits

Dairy farmers sow approximately 330,000 hectares of perennial pasture annually. Around 17 per cent of them use the FVI when making cultivar selection decisions. Farmers benefit from the FVI by using more selecting profitable cultivars.

Changes in seed sales since the introduction of the FVI suggest the index has created net benefits for the dairy industry in the order of \$9 million. Total gross benefits were estimated to be \$11.8 million and total gross costs were \$3 million.

Key observations

The uptake of higher index perennial ryegrass cultivars appears to have increased since the introduction of the FVI. There are indications the FVI is having a modest, but nonetheless influential, effect over time on the quality of seed being introduced to the dairy farmer market. As this trend grows over time the value of the investment in the FVI will improve further.

Improving the uptake of higher performing cultivars should be an important priority of the dairy industry. The Forage Value Index is an important means to address a concerning market failure in the promotion and sale of perennial ryegrass cultivars. There are a range of impediments to dairy farmer uptake of higher performance varieties of which the FVI is part of the solution.

Given the expected release of new seed genetics that is likely to create step change in pasture performance, it is important that the FVI mature and increasingly underpins dairy farmer choice of perennial ryegrass varieties. This should include development of the index to incorporate metabolisable energy and the persistence of the cultivars.

Moving forward there are important gaps in understanding that will need to be addressed and these include better understanding trends in seed usage and farmer decision making in relation to cultivar choices and the reasons for the continued use of non-proprietary and poorer performing varieties. There are also significant gaps in the use of the FVI by farmers which are poorly understood and may be limiting the uptake of the FVI.

Key recommendations

While the index provides guidance to farmers on the likely average value in terms of profit to a dairy farmer from the additional dry matter yield of the cultivar, it is an indicator of profit and has limitations in reflecting the overall profit impact for individual farmers. For example, the true profit for individual farmers will vary according to their circumstances. Additionally, plot trial performance of seeds is not the same as paddock performance on individual farms and may overstate profit.

Furthermore, dry matter yield, currently the sole trait by which cultivars are ranked in the FVI, is an incomplete indicator of the value of a given ryegrass cultivar. Metabolisable energy is also important and its absence in the index is expected to underestimate profit potential. While a profit-based index may help communication to some farmers on the relative performance of varieties, the true profit impact will vary among farmers depending upon their individual circumstances. As such, an index based on comparative yield performance of the variety may be more appropriate for some farmers.

The FVI is addressing a market failure within the seed market whereby in the absence of the index there would be an information asymmetry between seed sellers and the dairy farmer seeking to objectively understand the comparative performance of seeds being marketed. This is because there is no available collective performance assessment on farms of pasture yield of different varieties used – for example, in the way there is for the production performance of daughters of sires. As such, the seed market has some similarities to pre ABV dairy genetics market and stud sale information where objective comparative assessment of bulls was absent.

It is important to understand that the genetic improvement of pastures used by dairy farmers is a vital component of future dairy farm productivity performance. A limitation with the FVI in its present form is the impediment to the objective assessment of how the FVI is influencing seed use decisions of dairy farmers. This gap needs to be addressed going forward as there is to be objective baseline data, against which to assess the adoption of F1 hybrids and gene edited varieties.

In this report, MJA identifies several opportunities to improve understanding of how the FVI influences farmer decisions. These may help, but not necessarily improve the steadfastness with which farmers continue to use low performing cultivars. The FVI is one tool towards practice change, but it is not the sole one and further efforts are needed to understand impediments to the use of higher performing and higher value cultivars.

Management response

Management has reviewed the Ex-post Evaluation of the FVI and concurred with the findings. The counter-factual described was robust and developed in consultation with the FVI project team. The scope of the review was confined to the period of FVI project activity which produced a series of FVI tables (rankings) for perennial ryegrass varieties between 2018 to 2022 (excluding 2019 where no index was produced).

The report highlighted constraints around assessing sales volume changes for high-ranking varieties in the FVI due to restrictions on variety specific sales data held by the Australian Seed Federation (ASF). While Dairy Australia is a member of the ASF, it was not able to gain access to such granular sales data. However, the ASF did provide to Dairy Australia and MJA data describing sales volumes for proprietary and non-proprietary seed which was used to estimate likely changes in sales of higher FVI ranking grasses. The report describes how the MJA team elected to 'rebase' estimates of non-proprietary sales for the purpose of the analysis. We agree with this approach.

A conclusion from the report is that the production of FVI rankings through this project has led to a modest influence on seed purchases by Australian dairy farmers. Of note in the report is the finding that, while the agronomy community has an extensive understanding of the FVI, there is no method of capturing outcomes from agronomist led recommendations on seed selection for farmers. Further, the report goes on to recommend more targeted ways of assessing seed selection decision making by farmers in the future and we agree with this finding.

The report remarks on the future importance of incorporating metabolisable energy (ME) into FVI rankings as an enhanced method for estimating profit from the use of selected varieties. Management notes that building the methodology whereby nutritive measurements (e.g. energy, fibre fractions, protein) are incorporated into the FVI rankings remains to be finalised and this statistical analysis may extend beyond just ME. Work to define this shall be ongoing in this project in 2022/23.



The FVI management team thanks MJA for their work on this review and the succinct nature of this report. As a result of this review management undertakes to:

- Ensure that an FVI focussed research project is considered for at least the first financial year of the next iteration of feedbase investment (from 2023/24) to facilitate incorporation and enhancement of nutritive value and persistence assessment as part of the FVI beyond 2023.
- Enhance the three yearly Feedbase and Nutrition Survey to better capture farmer decision making involving use of the FVI.
- Engage various agronomist networks, facilitated through the National Lead – Feedbase and Nutrition and the regional teams to ascertain their use of the FVI in formulating seed selection recommendations for farmer clients.

Improving reproductive performance

Background

The underlying causes of poor herd fertility can be diverse but there are several major drivers that have been important for recent participants in the project. These include issues with poor heat detection and poor use of early diagnosis of pregnancy and examination of herd data.

Previous investments by Dairy Australia devoted to improving herd fertility have provided farmers with a range of technical resources such as the InCalf book, technical manuals, discussion group modules that tackle various aspects of herd reproductive management, and training and extension packages aimed at both farmers and service providers.

However, the magnitude of technical resources across each of the key areas of herd reproductive management has the potential to confuse and overwhelm farmers, thereby compromising practice change and adoption.

Activities

The Improving Reproductive Performance project which operated over the period 2017-2020 offered resources and information for farmers and aimed to expand extension, communication, and marketing efforts with the aim of reaching a wider audience of farmers. This plan included face-to-face extension activities designed to reach over 2,000 farmers over the three years.

Most farmers participating in the workshops already have or plan to implement the learnings partly or fully. A survey undertaken by Marsden Jacob Associates (MJA) of participants of these workshops found that fertility on their farms would not have improved or would have deteriorated if they had not taken action.

The insights from a survey of participating farmers was supplemented by a survey of industry services providers (e.g., veterinarians, herd improvement staff and nutrition advisers). On the whole, the insights and results were similar. However, there were some differences in the relative importance and impact of some fertility issues reported by service providers compared to farmers.

This may reflect differences in the scope of clients serviced, such as larger farmers and differences in farm system operation compared to the wider farmer population that participated in the project workshops.

Farmers and service providers identified relatively similar positive farm system outcomes as a result of addressing fertility issues. The most important factors were more efficient milk production, greater flexibility to sell and retain stock, and more ability to cull poorer performing cows. Farmers also felt the changes were important in improving the simplicity of management. Though, service providers did not rank this outcome as highly as farmers did.

Key observations

The large net benefits are not surprising given the nature of the project and scope of the evaluation. Fertility is a fundamental driver of dairy farm production and profitability – poor fertility can have immediate and long-lasting effects on farm production and profit. It is of little surprise that addressing fertility problems is of value to farmers.

Both farmers and service providers agreed that fertility changes implemented from the Improving Reproductive Performance project learnings improved annual profitability. For most farmers, this was generally estimated to be in the order of one to 10 per cent per year.

Implementing practice changes resulted in short and medium run changes in the farm systems, but some changes were expected to continue over the longer term as successive years of improved reproductive performance 'wash through' the farm systems.

From an economic perspective, MJA found Improving Reproductive Performance was a worthwhile project. Farmers can expect improvements in profit by improving fertility and the costs of Dairy Australia delivering the project were relatively low.

Management response

Given the magnitude of the BCR, the assumptions in the report were sense-checked by Dr John Morton, veterinary epidemiologist, who used economic models he developed for Agriculture Victoria to demonstrate that on an individual farm level, improvements in in-calf rate and in not-in-calf rates required to achieve estimated average annual profit gain per farmer in the MJA report were achievable and realistic.

In response to the first MJA recommendation, Dairy Australia supports this recommendation. It closely reflects broad feedback from regional teams provided during a recent Animal Health & Fertility extension SWOT (strengths, weaknesses, opportunities, threats) analysis. Dairy Australia will use the learnings from this evaluation and work with the regional and learning and development teams to enhance fertility/reproductive management extension offerings. There also appears to be merit in further Research and Development to understand and incorporate the short/medium term return on investment (ROI) for fertility interventions into communications and promotion of these programs.

In response to the second MJA recommendation, Dairy Australia partially supports this key finding/recommendation. Increased focus on service provider training to ensure farmers are supported in practice/behaviour change is supported and could be achieved through a redevelopment/upgrade of the ReproRight adviser training program. However, wholesaling of extension tools is not supported for two reasons:

- Monitoring of farmer participation and oversight of quality and national consistency would be lost.
- The use of levy funds to develop tools then sold back to farmers via fee for service requires careful consideration.

PRIORITY

7

Innovative and responsive organisation

Goal An organisation that is farmer-focused, with talented people who embrace innovation and take decisive actions

Strategic outcomes

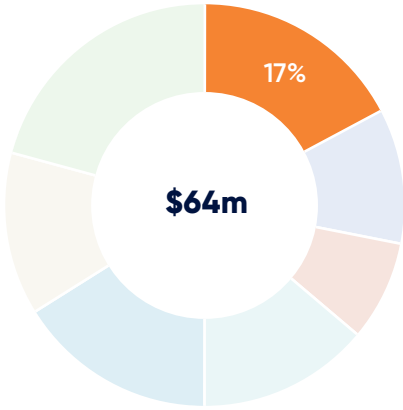
- a We have a farmer-focused service delivery model
- b Our culture of learning and innovation, values and ways of working deliver success
- c Our infrastructure, resources and processes allow us to be informed, agile and responsive
- d We have effective and transparent management of resources



Our projects, activities and services	Strategic outcomes			
	7a	7b	7c	7d
Finalise and embed 'Finance 2020' across the organisation		●	●	
Embedding our Values	●	●	●	●
External evaluations				●
Levy Member Register migration	●		●	
Salesforce Data Model	●		●	
Human Resources Information System and Internal Communications platform	●	●	●	●
Digital experience	●		●	
Tailoring our Services	●		●	
Industry Innovation Pipeline		●	●	
Levy Poll				●
Document Management in 365			●	
Audiovisual Upgrade			●	
Delivering for Dairy				●
Marketing and Communications Workflow Solution			●	
Workplace Health and Safety	●			

Investment

Dairy Australia investment 2021/22 **\$11m**



Performance summary

Work on the Farmer Services Strategy to enhance engagement with farmers continued this year. This project will ultimately affect people, processes and systems across the business, and this will remain a priority in 2022/23 and beyond. The new Salesforce Data Model and digital experience focus will be key contributors to success.

Work on embedding our values continues and will further drive organisational behaviour and culture change. Improved infrastructure such as audiovisual to support hybrid working has supported operational efficiency. Enhanced document management, and other process efficiencies will be a focus for 2022/23.



STRATEGIC OUTCOME 7A

We have a farmer-focused service delivery model

The work that Dairy Australia delivers is strongly focused on a deep understanding of farmers and farm businesses. Our work continues to be tailored to the needs of our primary stakeholders who are dairy farmers.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Farmer-focused service delivery model embedded across all our projects, services, infrastructure, communications and processes	100% embedded	10%	10%
Farm businesses feel Dairy Australia has an effective relationship management model	80% of farmers	53%	47%

Key achievements

- Levy data collection is more accurate and simplified allowing time and effort efficiencies and better communication on key activities such as the AGM to levy payers and reporting on levy data.
- The Levy Poll process was completed with a response rate of 35 per cent of votes returned. Farmers were given adequate opportunity to participate in the Levy Poll.
- Communication and engagement of levy poll results was completed utilising regional and national networks to distribute results.

STRATEGIC OUTCOME 7B

Our culture of learning and innovation, values and ways of working deliver success

A positive organisational culture guides the delivery of our strategic plan. Our way of working is highly collaborative with a strong focus on teamwork and on decisive action.

Innovative thinking is highly valued to identify new opportunities to create value for farm businesses, to co-create innovation projects with partners and to pursue new approaches to innovation.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Employee engagement score increases	80% employee engagement	66%	68%
Dairy Australia values are known by employees	100% of employees	93%	98%
Dairy Australia values are well understood by employees	100% of employees	91%	97%
Dairy Australia employees demonstrate commitment to our values	90% of employees	70%	72%
Farm businesses value Dairy Australia for our ability to be innovative	80% of farmers	54%	53%

Key achievements

- Values pulse surveys were carried out in August 2021 and June 2022
 - 90 per cent of staff identified our values are right
 - There was an increase in awareness of the values from 93 per cent to 98 per cent
 - There was an increase in understanding of our Values from 91 per cent to 97 per cent
- There has been positive progression in closing the gap between the Values and our day-to-day culture through extensive consultation, including carrying out a behaviours workshop with staff across the business.
- Ongoing consultation with the Work Health and Safety committee and management. A draft Work Health and Safety framework was produced aligned to the AS NZS 45001 standard while a vendor was appointed to deliver a comprehensive mobile Work Health and Safety solution, to deliver just in time reporting and management.

STRATEGIC OUTCOME 7C

Our infrastructure, resources and processes allow us to be informed, agile and responsive

We have the right balance of infrastructure, technical and digital capability supported by talented people and efficient processes.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Dairy Australia's employees have the right tools and infrastructure to deliver the best service to levy payers	90% of employees	88%	74%
Dairy Australia processes allow for agility and responsive	75% of employees	66%	61%
Dairy Australia is responsive to major industry events impacting the industry	80% of farmers	57%	54%
Dairy Australia is decisive and effective in its actions	80% of employees	46%	46%

Key achievements

- Launched a data model update to the Salesforce system to enable more effective communication and interaction with external stakeholders.
- There has been positive progression in closing the gap between the Values and our day-to-day culture through extensive consultation, including developing and implementing improvements to key business processes, such as the Investment Review Panel.
- Continuous improvement of the digital experience for farmers, and other industry participants, to easily access relevant and updated information and resources in support of enabling and promoting a profitable and trusted dairy farming industry.
- Completed the concept design document outlining how the Innovation Pipeline would operate. Further work on the developing the Innovation Pipeline concept, its objectives, elements and outcomes will be met through the development of Dairy Australia's innovation strategy.
- A Microsoft Teams Business Partner commenced in June to provide coaching and deliver training to staff to facilitate adoption of the improved ways of saving, sharing and storing documents.
- Completed implementation of a Microsoft Teams based audiovisual system to improve the hybrid/online meeting experience and improve collaboration for staff in Southbank and regional sites as well as when meeting with external stakeholders.

STRATEGIC OUTCOME 7D

We have effective and transparent management of resources

Effective governance and transparent reporting enable Dairy Australia to make the right decisions and be accountable.

Our progress against strategy

KEY STRATEGIC SUCCESS INDICATOR	2025 TARGET	2021 BASELINE	2022 ACTUALS
Levy payers are satisfied they are well-informed about how Dairy Australia invests levy	80% of farmers	47%	43%
Levy payers are satisfied that Dairy Australia is investing levies appropriately	8/10 average levy payer response	5.6/10	5.0/10
Dairy Australia's investments deliver value to levy payers	80% of farmers	55%	53%

Key achievements

- External post-investment impact assessment of the Improving Reproductive Performance project revealed that the project delivered significant net economic benefits to farmers who made changes on their farm systems between 2017–20. The evaluation found that the project provided sound practice change tools to improve dairy herd fertility outcomes, which translated into improved farm profitability for participating farmers.
- A post-investment impact assessment of the Forage Value Index (FVI) project found that uptake of higher index perennial ryegrass cultivars appears to have increased since the introduction of the FVI and there are indications the FVI is having a modest but nonetheless influential effect over time, on the quality of seed being introduced to the dairy farmer market. The study also found the FVI is an important means to address a concerning market failure in the promotion and sale of perennial ryegrass cultivars. There are a range of impediments to dairy farmer uptake of higher performance varieties of which the FVI is part of the solution.



Case study

Engaging with farmers better through greater use of technology

Objective

In 2020, Dairy Australia launched a five-year strategic plan detailing its priorities, including the drive to become a more innovative and responsive organisation. Salesforce enables this priority and supports many other strategic priorities like 'Technology and data-enabled dairy farms', 'More resilient farm businesses' and 'Thrive in a changing environment'.

Our objectives over the last three years have been:

- To improve engagement with our key stakeholders in the industry such as farmers, service providers and others.
- To enable farmers to manage their business through digital tools that are sophisticated in their functionality, yet provide a unified, simple, and easy to use experience.

Action

Since early 2020, Dairy Australia has focused on improving the way we capture and store information in Salesforce to gain a more complete view of our stakeholders.

For example, some customers might be associated with multiple farms as well as other industry organisations.

We have set up Salesforce to provide better visibility of those relationships as well as a consolidated view of contacts for every farm.

In the future, we want our people to be able to engage with farmers and farm businesses with everything they need to know about that farm available at their fingertips, including what relationships we have there, all of our recent interactions, and information on how the farm is performing.

We have focused on delivering digital tools for farmers in a way that was more unified and sustainable for the future.

We decided to build and host these tools using Salesforce Experience Cloud which will ultimately provide farmers with a single point of access to all the solutions available to them. This will make it easier for Dairy Australia to gather data and analytics that can be used to further improve our digital tools offered to farmers.

Impact

The impact of our work over the last three years is two-fold:

- Positive experience and access to knowledge-based tools for dairy farmers
- Improvements in efficiency and long-term reduction in cost for Dairy Australia.

We have built two online tools for dairy farmers, the Farmer Business Snapshot and Farm Fitness Checklist. Our existing programs for dairy farmers such as Our Farm, Our Plan use these tools and they provide farmers value through structured planning, goal setting and data capture. There are more tools currently planned to be built using the same platform.

We also anticipate significant savings in the time and cost to build, deploy, and manage new tools. For example, we will be able to leverage the same look and feel for each new tool and re-use base components like account creation and reporting processes.

When it comes to maintenance, we will have the flexibility to make changes and updates to all tools at once – rather than having to work with multiple suppliers to update each app individually. Total efficiency gains, accounting for time and cost, are expected to be as high as 70 per cent. The estimate includes a 30 per cent increase in efficiency for tool creation and a 30–40 per cent increase in efficiency for tool maintenance.

Appendix

Key project success measures

1 More resilient farm businesses				
Project	Key measure	2021/22 target	Achieved	Status
P306 Our Farm, Our Plan (OFOP)	Farmer participation in OFOP workshops	400	404	●
	Value of OFOP extension activities to your business	>8	9.1	●
	% of farmers participating in OFOP activities indicating they are 'very likely' to make changes on farm	>50%	86.3%	●
	% of farmers participating in OFOP activities indicating they will make change within six months	>70%	79.8%	●
	Digital Farm Fitness Checklist registrations	169	170	●
	Farm Fitness Checklist registrations converting to participation in OFOP	85	150	●
A344 Large Supplier Program	Proportion of participating large suppliers indicating they are likely to implement learnings from A344 activities within six months (workshops, study tours)	75%	83.3%	●
	Percentage of Large Suppliers (top 200) participating in large supplier activities including events and engagement activities captured in Salesforce; notes, tasks, phone calls and cases	90%	92%	●
	Largest 40 national Zoom meetings/in person discussing industry updates. If possible one Melbourne workshop and one regional meeting with Dairy Australia Board member/LT member	4	4	●
	Using Dairy Farm Monitor Program metrics, analyse large supplier 3–5 years performance data and hold a conference with participants ⁱ	30	0	●
	National Dairy Farmer Survey overall, how satisfied are you with the way in which Dairy Australia including [RDP] engages with dairy farmers like you? ⁱⁱ	7	5.4	●
P301 Milk Price Monitor	Total unique user visit of the extension content for activity two on the website (case studies)	2,500	3,196	●
	% of dairy farmers and consultants agree the Discussion Group content has improved their understanding of the modules' key objective/s	80%	85%	●
	Number of users who download and/or use the simple and complex business calculators	300	381	●
	% of users agree that the calculator improved their understanding of and supported business decision-making	80%	80%	●
	Integrating the Milk Value Portal 'Supporting delivery mechanisms' – click throughs to the ADPF Milk Value Tool from the Dairy Australia website, eDMs	N/A	88	●
A358 National Herd Reproductive Performance Report	Median 6–week in-calf rate for seasonal and split calving herds	55%	51%	●
	Median 100–day in-calf rate for year-round calving herds ⁱⁱⁱ	36%	32%	●

i While farmers stated they wanted this opportunity, when it came to agreeing for their data to be anonymously included and shared for a conference, 30 farm businesses did not agree to this.

ii The feedback in the Dairy Australia Strategic Portfolio Tracker from businesses >700 cows provided feedback of their disappointment in the levy vote options, understanding of what the additional benefits were and labour shortages. To address this, regional meetings will be held with the largest 200 suppliers to discuss where that group see the gaps in their levy investment. The Farm leadership team are meeting with the largest five businesses individually and Dairy Australia is investing in a large workforce program.

iii These results reflect a long-term decline in median 100–day in-calf rates. The top 25% of herds in this analysis achieved 100–day in-calf rates of 39% with some individual herds as high as 55%, indicating improved reproductive performance is possible. The research underpinning improved reproductive performance is mature, but on-farm adoption is lagging, and this was supported by the ex-post review conducted by Marsden-Jacobs in 2021. For example, the median 80-day submission-rate, which indicate heat detection efficiency in year-round calving herds, was 36% during the report period yet the top 25% of herds were achieving submission rates of 50%. InCharge Fertility, Dairy Australia's fertility extension program has been earmarked for review and redevelopment in 2022/23 under the new Farmer Services Strategy.

2 Attract and develop great people for dairy

Project	Key measure	2021/22 target	Achieved	Status
P260 Farm Safety	Provide a safe work environment – number of Standard Operating Procedures (SOPs) created by farmers registered on online compliance platform	2,000	2,662	●
	Provide a safe work environment – proportion or % of SOPs accessed by employees ⁱ	50%	30.5%	●
P286 Dairy farm managers	Number of student enrolments	75	128	●
	Student retention in dairy farm manager initiatives	80%	90%	●
	Student satisfaction with dairy farm manager learning experiences	85%	89%	●
A388 Regional Services	Number of extension and regional engagement events and discussion groups held	750	687	●
	Number of attendees at extension, regional engagement events and discussion groups	6,000	11,218	●
	Number of Dairy Discussion Groups active ⁱⁱ	150	125	●
	Number of discussion group attendees	1,000	2,320	●
	Dairy Australia invests in programs or activities that are relevant to farmers' needs	60%	52%	●
	Dairy Australia makes an effort to have an ongoing relationship with dairy businesses	60%	49%	●
P430 NSW Farmer Capability Coaching and Extension	Dairy Australia acts quickly to provide support or resources to farmers during tough times	60%	54%	●
	NSW dairy farms registered on Dairy Passport	50	45	●
	NSW employees registered on Dairy Passport	>50	78	●
A408 People in dairy	Provide a safe work environment – number of Standard Operating Procedures (SOPs) created by NSW farmers registered on Dairy Passport ⁱⁱⁱ	100	29	●
	Access to people in dairy website – sessions to the resources onsite	55,000	80,579	●
	Total page visits for People in Dairy website	140,000	232,218	●
A412 Australian Rural Leadership Program sponsorship	Employment Starter Kit (ESKi) access rates	2,500	6,569	●
	100% of scholars enrolled complete	100%	100%	●
A422 DairyLearn Partnerships	100% of scholars complete report that the leadership program provided value for activities in their business	100%	100%	●
	Number of educators participating in DairyLearn professional development activities	20	30	●
	Participant satisfaction with DairyLearn initiatives	80%	85%	●

i 2021/22 saw a transition from Dairy Passport to a commercial safety and compliance solution which caters to the specific needs of dairy farmers and provides support to ensure farms are compliant and have access to all the on-farm safety resources and training requirements for their farm.

ii Activity of Dairy Discussion Groups was reduced due to the limitations of delivery posed by COVID-19 restrictions, along with the consolidation of some discussion groups.

iii This metric shall be modified for 2022/23. Please see note (i).

2 Attract and develop great people for dairy

Project	Key measure	2021/22 target	Achieved	Status
A366 Extension	Value of animal performance extension activities to your business	>8	9.2	●
	% of farmers participating in animal performance activities indicating they are 'very likely' to make changes on farm	>80%	78%	●
	% of farmers participating in animal performance activities indicating they will make change within <6 months	>80%	93%	●
	Value of climate and energy extension activities to your business ⁱ	>8	6.8	●
	% of farmers participating in climate and energy activities indicating they are 'very likely' to make changes on farm ⁱ	>80%	18%	●
	% of farmers participating in climate and energy activities indicating they will make change within six months ⁱ	>70%	25%	●
	Value of feedbase extension activities to your business	>8	8.7	●
	% of farmers participating in feedbase activities indicating they are 'somewhat likely or very likely' to make changes on farm	90%	99%	●
	% of farmers participating in feedbase activities indicating they will make change within six months	80%	83%	●
	Value of FBM extension activities to your business	>8	9.0	●
	% of farmers participating in FBM activities indicating they are 'very likely' to make changes on farm	>50%	65%	●
	% of farmers participating in FBM activities indicating they will make change within six months	>70%	72%	●
	Value of People extension activities to your business	>8	8.3	●
	% of farmers participating in People activities indicating they are 'very likely' to make changes on farm	>50%	77%	●
	% of farmers participating in People activities indicating they will make change within six months ⁱⁱ	>70%	40%	●
	Value of soils/NRM extension activities to your business ⁱⁱⁱ	>8	6.7	●
	% of farmers participating in soils/NRM activities indicating they are 'very likely' to make changes on farm ^{iv}	>80%	53%	●
% of farmers participating in soils/NRM activities indicating they will make change within <6 months ^{iv}	>70%	61%	●	

i This financial year has seen significant activity towards developing extension resources for climate change adaptation, environmental stewardship and energy use optimisation on farm. Given this development work there have been very limited climate, environment and energy related extension options for farmers and their service providers to participate in. Roll out of developed extension resources shall occur in 2022/23.

ii With a new Talent and Capability manager in place there will be a renewed focus on people activities and on farm adoption moving into 2022/23. This coupled with the Workforce Attraction program of work set for release in 2022/23 we are confident this area of focus will be addressed.

iii Extension in soils and NRM revolve around the Fert\$mart course currently. This course is being renewed in the coming 12 months with an emphasis on increased training capability and capacity in the regions. This, along with the release of an environmental tracking tool, should see an improvement in perceived value of extension in soils and NRM.

iv Please see comments for (i). The likely change for most farms is the creation and execution of nutrient management plans involving soil testing and fertiliser planning against a nutrient audit. It is anticipated that the application of such changes by farmers shall improve after the Fert\$mart course is renewed.

3 Strong community support for dairy

Project	Key measure	2021/22 target	Achieved	Status
P311 Health and nutrition	Consumer target audiences hear positive health messages about dairy foods from health professionals	>85%	94%	●
	Fractures trial research is presented at key domestic and international conferences	5 conferences	5	●
	NGOs/KOLs agree 'I/my organisation feels more positive about dairy as part of a healthy, sustainable dietary pattern after engaging with Dairy Australia'	70%	90%	●
	Fractures trial research gets published in scientific journals ⁱ	3 out of 6 papers published in 2021/22	1 out of 6 papers published	●
	Increase NGOs/KOLs who agree 'I/my organisation trusts Dairy Australia as a credible source of information'	94%	98%	●
P307 Consumer marketing	Changemakers agree the dairy industry meets their expectations in doing the right thing	69%	66%	●
	Believers make an effort to consume dairy every day	71%	67%	●
	Target audiences agree I think it's important to support the Australian dairy industry	90%	87%	●
P319 Schools engagement	Teachers agree their students have a better understanding of the health and nutritional benefits of dairy foods for strong bones since participating in the program	90%	97.5%	●
	Teachers agree students trust and support the Australian Dairy industry	70%	97.5%	●
	Number of primary school students reached through the Primary Schools Program	300,000	873,552	●
A391 Industry Sustainability Framework	Biannual sustainability forums – 80% forum participants are well engaged and rate the value of this forum as 7/10	7	8.2	●
P431 DairyHIGH 2 – NRDC Welfare Research and Development	% of farmers involved in the action groups for increasing the value of non-replacement dairy calves indicating they will adopt new practices to achieve this aim	100%	100%	●

ⁱ Slow uptake on publishing, however, was picked up by high profile British Medical Journal which will deliver on project outcomes. Further journals will be pursued in 2022/23.

4 Thrive in a changing environment

Project	Key measure	2021/22 target	Achieved	Status
P275 Adapting dairy farming systems	Alternate feedbase silage study completed	1	1	●
	Economics study for adapting farm systems field work finalised	1	1	●
	Desktop review alternate feedbase and feeding infrastructure peer reviewed	1	1	●
	Second edition guidelines for feedpads and cattle housing systems drafted	1	1	●
	Decision Support Process – working group continues to refine the logic. User testing will occur in April/May in multiple dairy regions	1	1	●
P490 Forewarned is forearmed	New extreme event forecasting products available to dairy farmers for 2021/22	5	5	●
P297 Sustainable Dairy Products (NLP Smart Farms)	Successful implementation of a co-design process for the refresh of the dairy on-farm good environment practice resource (currently DairySAT)	100	103	●
	Pilot of a digital environmental tracking tool and Enlight modules as an extension package ⁱ	14	0	●
P314 Supporting Manufacturing Sustainability	Average processor rating regarding value of P314 activities to their business	>8	8.8	●
	Average processor rating engaged in P314 activities regarding Dairy Australia as a credible source of information and insights	>8	9.4	●
	% of milk supply covered by processors engaged with P314	90%	90%	●
	% of project funding contributed by processors and other external bodies	90%	97%	●
P406 DairyHIGH 2	Management committee for N farmlet experiment established, pasture species composition and relative proportions within each farmlet agreed by committee, farmlet paddocks within each treatment sown in Autumn 2022	100%	100%	●
	% of farmers intending to make a change in pasture management after attending pasture workshops ⁱⁱ	75%	64%	●
P405 Adapting to climate change on dairy farms	Pilot of learning package in Gippsland completed ⁱⁱⁱ	15	0	●
P283 C4 Milk	% of farmers attending C4 Milk extension events indicating they will adopt research findings on farm	75%	70%	●
	% of farms trialling outcomes from C4Milk forages research at a paddock scale on their farms while actively working with QDAF extension staff to monitor yield and quality of forages adopted	40%	38%	●
P280 National Pasture Genebank	Successful maintenance of a prescribed % of the total accessions annually based on APG staff capacity	1	1	●
P463 Building capacity in effluent system design for dairy	Design a livestock effluent system program delivered to service providers	15	15	●
	Dairy WatBal webinars delivered to update all service providers who have access to Dairy WatBal	15	19	●
	Design a livestock effluent system program assessment completed by participants and assessed by deliverer's	70%	100%	●

i The piloting of an environmental tracking tool and associated Enlight learning modules were delayed due to the complexity of the tool building process. While the entire process is taking longer than was anticipated, the end product shall be more robust and future proofed. Piloting and deployment shall take place in the next 12 months.

ii The DairyHigh2 extension remains in early stages as the farmlet study research is in itself in its first stages of a multi-year study. It is anticipated that application of extension advice as a result of the DairyHigh2 study shall increase in the coming 12–24 months as the research matures.

iii Completion of the learning package was delayed due to a review of the entire suite of climate related projects. As a result, enhancements to the learning package were made with piloting and full deployment to occur in the coming 12 months. This shall coincide with the appointment of all the Climate and Environment Regional Extension Officers.

5 Success in domestic and overseas markets

Project	Key measure	2021/22 target	Achieved	Status
P434 International Trade Messaging Implementation	Australian dairy products are nominated as preferred status by customers in Japan ⁱ	70%	58%	●
	Australian dairy products are nominated as preferred status by customers in Greater China ⁱ	60%	46%	●
	Australian dairy products are nominated as preferred status by customers in Southeast Asia	60%	56%	●
	Brand recognition and key message association metrics	Thrive Together campaign launched 29/06/2022		●
P450 International Market Development	Feedback from scholarship/seminar participants in China to evidence a better understanding of Australian dairy.	8	8.8	●
	Feedback from scholarship/seminar participants in Japan to evidence a better understanding of Australian dairy.	8	8.7	●
	Australian dairy products are nominated as preferred status by customers in Japan ⁱ	70%	58%	●
	Australian dairy products are nominated as preferred status by customers in Greater China ⁱ	60%	46%	●
	Australian dairy products are nominated as preferred status by customers in Southeast Asia	60%	56%	●
	Feedback from scholarship/seminar participants in SE Asia to evidence a better understanding of Australian dairy	8	8.6	●
P451 India Market Development	Industry and government stakeholders value work of dairy Australia to inform policy discussions and to help ensure access to markets.	8	10	●
	Australian dairy makes market access gains into key export destinations	100%	100%	●
P454 Market Access and Policy	Industry and government stakeholders value work of dairy Australia to inform policy discussions and to help ensure access to markets.	8	10	●
	Australian dairy makes market access gains into key export destinations	100%	100%	●
	Stakeholders value work of Dairy Australia to help ensure access to markets (industry, government, exporters)	8	8.2	●
P315 Industry Insights and Analysis	Knowledge sharing/stakeholder appetite – presentations to farmers and other external stakeholders (number) ⁱⁱ	90	77	●
	T&S staff are consistently mentioned in the media	200	166	●
	Average Industry Data Group service desk rating	4 out of 5	5	●
P310 Technical policy support	Dairy Australia is recognised as a credible and reputable source of technical policy support by industry and government	8	10	●

i The shrinking Australian milk pool and constant news around seasonal challenges within Australia in recent years has hurt Australia's reputation as a reliable supplier of dairy. This is particularly the case in Japan where Australian exporters have reduced export volumes in favour of higher valued markets in China and Southeast Asia. This has been further hindered by an inability to travel during COVID-19 into overseas markets which has limited Dairy Australia's ability to influence the perception of Australian dairy with key international customers. The Thrive Together campaign, launched towards the back end of 2021/22, will help to harness the messages around Australian dairy in the coming year and hopefully continue to improve the metrics around Australia being viewed as a preferred supplier in overseas markets.

ii Travel restrictions during COVID-19 have prevented the analyst team from doing as many face to face presentations as would usually be the case.

5 Success in domestic and overseas markets

Project	Key measure	2021/22 target	Achieved	Status
A357 National Bulk Milk Cell Count (BMCC) statistics	Farms with an annual average BMCC below 250,000 cells/ml	90.4%	86.2%	●
	Farms with an annual average BMCC above 400,000 cells/ml	1.05%	0.40%	●
A360 Veterinary Investigation Residue Management	Number of slaughtered bobby calves with antibacterial residues above Australian maximum residue limits (MRL) ⁱⁱⁱ	0	6	●

iii Two of the six residue detections were from the one farm. While zero residues is always the target, six remains low and with appropriate investigation into individuals by state agriculture departments, and continued industry messaging through the Rearing Healthy Calves extension program, we should continue to see low numbers of residue detections in future.

6 Technology and data-enabled dairy farms

Project	Key measure	2021/22 target	Achieved	Status
P109 DataGene	Official Australian Breeding Value (ABV) releases	3	3	●
	Revised national indices released (should be reviewed for exclusion from financial year or quarter metrics)	1	N/A	●
	Release ABVs (routine runs) on industry agreed schedule	1	1	●
	CDR connected to IDDEN Project ⁱ	1	0	●
	Connect Easydairy, Jantec, APIAM/DairyData to CDR ⁱⁱ	3	0	●
	Minimum of two significant external IT clients	2	6	●
	Maintain Ginfo with 27,000 genotypes and 8,400 Linear Type Evaluations	2	2	●
P300 Supporting Industry to invest and operate AMS successfully	% farmers considering investment in AMS utilising AMS resources prior to investment decision	70%	79%	●
	% of AMS farmers engaging in regional and/or national AMS forums	70%	78%	●
	% of AMS farmers classifying themselves as 'swift and successful' or 'typical' in their first year of transition to AMS	80%	100%	●
	% of decommissions as a percentage of total AMS installations	3%	12%	●
P272 Smarter Irrigation 2	SIP2 events and activities provide value to the business of participants	8	8.63	●
	Participants are likely to take action to do things differently in the next 12 months	30%	88%	●
	Participants are 'likely' or 'very likely' to do things differently as a result of attending SIP2 events	50%	92%	●
	Participants will recommend SIP2 events to colleagues	8	8.40	●
	Milestone reports are accepted by Department of Agriculture, Water and the Environment	3 times per year	3	●

i The data exchange platform being built through the multi-national IDDEN project remains under development. This work is being led in Canada, Denmark and Germany. Connecting the CDR to the data exchange is anticipated prior to the end of the 2022 calendar year after further development and testing of the platform is completed.

ii Consultation with all three on-farm IT providers remains ongoing through DataGene. It is anticipated that connection into the CDR shall constitute another 12 months' worth of work. This remains a very active set of tasks for DataGene and member of the Farm (FPAC) Group within Dairy Australia.

6 Technology and data-enabled dairy farms

Project	Key measure	2021/22 target	Achieved	Status
P279 Accelerating Heifer Genomics	Value of heifer genomics extension activities to farm businesses	8	9.30	●
	% of farmers participating in heifer genomics extension activities indicating they are 'very likely' to make changes on farm	70%	84%	●
	% of farmers participating in heifer genomics activities indicating they will make change within 6 months	70%	78%	●
	Number of females genomically tested ⁱⁱⁱ	83,500	67,228	●
P278 Forage Value Index	% of farmers that sow perennial ryegrass using the FVI to help inform cultivar selection	60%	Metric reporting delayed	
P428 Unlocking the potential of the cow (DairyUP – NSW)	Successful recruitment of all study farms in first 12 months of project	10 study farms	13	●
P429 Unlocking the potential of the Kikuyu (DairyUP – NSW)	Successful recruitment of all study farms in first 12 months of project	15 study farms	15	●
P261 Access to AgVet chemicals	Successful application for one Minor Use requirements grant funding through the Commonwealth (or application entered on grant reserve list)	1	1	●

ⁱⁱⁱ The testing targets set out in P279 are ambitious with the 300,000 heifers/year by 2024/25 target equating to approximately 53% of heifers born in Australia being tested annually. By contrast, in the USA, around 17% of heifers are tested annually. When adjusted for exchange rates, Australian farmers are paying approximately 144% of the price for commercial genomic testing, relative to farmgate milk price of USA farmers and the highest relative to milk price of Canada, Denmark, Ireland, New Zealand, the UK, and USA. Therefore, much of the focus of the project for 2022/23 is on clearly understanding and communicating the ROI for farmers.

7 Innovative and responsive organisation

Project	Key measure	2021/22 target	Achieved	Status
P335 Embedding our Values	Dairy Australia values are known and well understood by employees	80%	91%	●
	Increase the utilisation and engagement with digital platforms	60%	55%	●
A376 Digital Experience	Continue with the rationalisation and standardisation of digital platforms (decommission 2–5 platforms in 2021/22)	2–5	3	●
	% of AMS farmers engaging in regional and/or national AMS forums	10%	10%	●
P447 Industry Innovation Pipeline	Number of industry ideas submitted by stakeholders ⁱ	>5	N/A	

ⁱ The Industry Innovation Pipeline project was not launched in 2021/22 which is why it did not report against the target.

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