Growth Scenarios Paper

Appendix A

September 2020

Australian Dairy Farmers
ADPF
Australian Dairy Products Federation Inc.
Dairy Australia
GARDINER FOUNDATION

Executive summary

The Australian Dairy Plan sets out commitments aimed at rebuilding the confidence of dairy businesses in the industry's future and lifting profitability across the dairy supply chain. Success in the form of a profitable, confident and united industry will arrest the recent trend of drift and decline and return to growth in milk production.

This paper represents a body of work commissioned to inform and stimulate discussion about the scope for the Australian dairy industry to grow.

The following analysis has been updated in June 2020 to reflect the latest information and assumptions. In particular, Australian milk production has exceeded expectations in the FY21 season, boosting the base year volume. On the other hand, lower farmgate price expectations in the wake of the COVID-19 pandemic have impacted overall value generation.

Longer term, the onset of the COVID-19 pandemic has highlighted the potential for market shocks, but the opportunities for dairy remain significant.

Under the medium growth scenario, milk production in 2024–25 (FY25) is forecast to be 9.6 billion litres, one billion litres higher than the projected levels of production on current settings.[1] This additional production will generate almost $500 million annually in extra value at the farmgate and stimulate the creation of several thousand direct new jobs, mostly in rural and regional areas.

Further growth in the second half of the decade is essential for the dairy industry to actively contribute to the target of $100B for the agriculture sector by FY30. This target was proposed by the National Farmers Federation and endorsed by the Federal Government. Continuation of medium growth rates would result in 10 billion litres in FY30, while a concerted effort to reduce and remove regional constraints would result in a high growth scenario of 11.6 billion litres. This represents a modest increase on Australia's historical peak milk production of 11.2 billion litres in FY02. Regionally however, this would be distributed differently to the past, with greater volume potential attributed to those regions with fewer physical constraints and lower existing barriers to growth.

The dairy industry delivers significant financial benefits to the community. In the high growth scenario, the nominal farmgate value of dairy would increase to $6.9 billion and would generate over $14 billion in total economic contribution, based on current economic multipliers.

In addition to its financial dividends, the industry could employ as many as 59,000 people – in jobs traditionally located in rural and regional areas.

These scenarios have their foundation in many years of growth analyses and regional plans across the industry. They are based on growing global demand for dairy products and a positive medium-term outlook for milk prices. Notwithstanding year-to-year volatility, compound annual nominal growth of 3 per cent in the latter is consistent with trends observed over the FY01 to FY19 period.

Whilst the current pandemic has produced an economy-wide market shock, there are many, often less dramatic, constraints to growth, and this paper incorporates a regionalised assessment based on extensive consultation with those at the forefront of dealing with them. Perhaps most importantly, it attempts to quantify the value of the opportunity facing the Australian dairy industry. An opportunity to generate more value for farmers and the whole dairy supply chain, and more jobs in rural and regional areas.

1 This one billion litre increase in milk production is calculated as the difference between the FY25 (forecast) volume for the drift and decline scenario of 8.5 billion litres and the FY25 (forecast) volume for the medium growth scenario of 9.6 billion litres.

Background to this work

Dairy Australia (DA) has undertaken growth analyses in the past, most recently as part of the 'Pathways to Profitable Growth' process in FY16. This was a collaborative exercise between DA's Trade and Strategy team, its Regional Development Programs (RDPs), and various external stakeholders.

Emerging from frequent but disparate discussions around industry growth, it focused on developing a framework to inform regional growth and profitability. The focus was on constraints analysis and qualitative factors, but it also aggregated regional milk production growth rates from existing and new research. Regional industry growth plans were drawn upon where available.

Economic multipliers derived from a study around the same time were applied to the production growth scenarios, to help represent the broader economic impact/opportunity. This work forms the background to, and has contributed to the current analysis.

The late FY16 step-downs and subsequent drought have precipitated significant industry changes that have reduced the applicability of the original growth scenarios, however many of the qualitative constraints are similar. These have been updated and refreshed in consultation with RDPs.

Broader context

More broadly, in 2017 the National Farmers Federation announced a vision for agriculture to exceed $100 billion in farmgate output by 2030. This vision has been backed by the Commonwealth Government, and detailed in a discussion paper titled 'Talking 2030', which identifies seven growth themes that would help create a $100 billion sector by 2030. These include: understanding the future customer; supercharging supply chains; growing sustainability; unlocking new technology; and attracting people and capital to agriculture.

Analysis by consultancy firm ACIL-Allen (*Agriculture – a $100B sector by 2030?*) outlined a base case whole-of-agriculture scenario $15.7 billion short of the $100 billion vision by 2030. Reaching this base-case level implies an average rate of growth in nominal farm value of about 1.7 per cent from 2016–17. To achieve $100 billion in value by 2030 would require an average nominal growth rate of 3 per cent across the period. According to ACIL-Allen's modelling, this outcome would require dairy to grow from the then-$4.2 billion in Gross Value of Agricultural Product (GVAP) to between $5–5.5 billion by 2030 in nominal terms.

From a market perspective, the opportunities for dairy are immense. Stiff competition will always be present as other global dairy exporting regions (most notably, Europe, New Zealand and the United States) seek bigger markets and more lucrative value add opportunities for their products, in many cases operating with significant government income support. However, demand for dairy continues to grow, and for Australian sellers, the overriding issue has long been a dearth of product to sell; not a shortage of willing buyers. As outlined in the Australian Dairy Situation Analysis, dairy consumption in Australia is robust and global dairy demand continues to grow.

Technological disruption continues to offer both benefits and potential risks, but despite widespread interest and investment in plant- and lab-based alternatives to dairy products, global demand is projected to continue growing.

International dairy trade is expected to increase 1.7 per cent per annum to 2027 by the OECD-FAO and Australia has an excellent reputation upon which to build future success. Figure 1, overleaf, provides an overview of the International Dairy Federation (IDF)'s consumption outlook.

As Figure 1 shows, the scope for growth in dairy demand from the developing world is substantial and will continue to expand with rising GDP that flows into higher household incomes. Increasing urban migration will push this demand growth faster in some regions, as people earn more in city jobs, and seek better nutrition and variety in their diets.

The expected strong growth in Asian and Middle East North Africa (MENA) economies will provide greatest opportunity for expansion of dairy markets. Dairy is well established as a key part of an increasingly nutritional protein-rich diet in these regions.

The growth in the dairy market is not just a story about the ongoing potential in China – other markets could be as important, and possibly more significant for Australia.

Domestic demand is also strong. The major Australian consumer dairy products are drinking milk, cheese, butter and butter blends and yoghurt. While per capita consumption trends per product has varied significantly over the past two decades, Australians, in general, consume more dairy than other comparable countries. During FY19 Australians consumed on average 321 litres of milk. This is more than the 269 litres per capita consumed in the United States and the average of 305 litres of milk consumed per capita in the European Union.

Figure 1 IDF Dairy consumption outlook – annual total consumption growth rate between 2015 and 2028

Source: IDF calculation based on OECD-FAO Agricultural outlook

Growth scenarios overview

As a means of informing discussion about Australia's scope to satisfy dairy demand both domestically and abroad, as well as the dairy industry's scope for filling its share of the NFF 2030 Vision, several quantitative milk volume growth outcomes were modelled at the regional level. Outcomes were predicated on:

- The current context
- Likely future opportunities in the event of a successful Dairy Plan implementation
- Additional longer-term growth potential should further progress be made on addressing identified constraints
- The trend in the event of no significant positive change to the current 10–year average trajectory

The three scenarios for which outcomes are outlined in this paper are summarised as:

Medium growth

The medium and high growth scenarios were developed through a basic analysis of the potential for growth in each region, in an environment where farmers were profitable, confident and united. This represents the expected outcomes of a successful Australian Dairy Plan.

Under the medium growth scenario, milk production grows at growth rates modelled for a 'Profitable, Confident and United' industry, but remains subject to other restraints such as land availability, water and feed pricing, and capital constraints. For some regions, this equates to a holding pattern, where current production declines are arrested. Constraints are outlined by region in the 'Regional constraints and risk analysis' at the end of this document.

Those constraints act as an increasing limitation on growth, and consequently, from FY26 to FY30 growth slows to half the previous rates. Despite increasing resource constraints over time, the industry successfully navigates market and economic shocks such as COVID-19.

Assuming a successful Dairy Plan and under no further intervention, this is seen as the most realistic scenario.

High growth

Under the high growth scenario, milk production grows at the same growth rates modelled for a 'Profitable, Confident and United' industry over the FY21 to FY25 period. However, a concerted effort to reduce and remove regional constraints enables the industry to continue to accelerate its growth in the FY26 to FY30 period, as farmer profitability remains strong. The industry successfully leverages economic shocks such as COVID-19 to attract government and private investment, demonstrating its resilience, forward thinking and export-contributing credentials.

For the purposes of this analysis, 'high growth' rates were modelled as the CAGR for each region industry in a (relatively) unconstrained growth phase, as drawn from peak 5–year growth rates from the 1989–2014 period. Whilst considered as reflecting the maximum rate of sustained growth for each respective region, these were capped at 4 per cent to reflect general physical, social and policy limitations likely to be encountered in the current environment.

Drift and decline

Under the drift and decline scenario, current limitations to growth continue and as headwinds build. Farmer profitability remains patchy, processing investment stalls and confidence remains depressed. As a result, milk production across most regions drifts and declines at rates based on the past 10 years, for the outlook period to FY30. Regions that have seen growth in the past 10 years also see production plateau or decline.

The industry is not able to develop tools and approaches to withstand market and economic shocks, and individual businesses are left to their own devices to manage risk, with mixed results.

Scenario outcomes

The modelled growth rates are summarised by region (denoted by RDP) in Table 1, below. The milk volume outcomes at the national level are provided for reference in the far right column.

Figure 2 shows the outcomes by growth scenario, by each of FY25 and FY30.

Please note: The High and Medium growth scenarios are based on the assumption that a Profitable, Confident and United dairy industry emerges from the successful implementation of the Australian Dairy Plan.

Figure 2 Milk production (national) scenarios

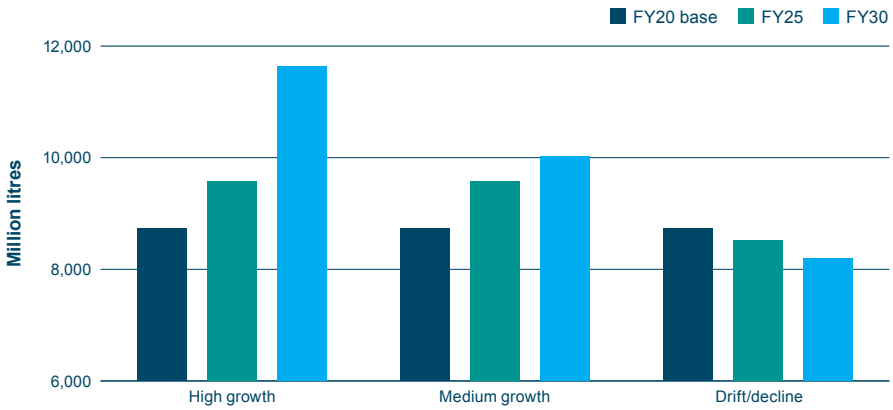


Table 1 Milk scenarios

		Dairy SA	DairyTas	Dairy NSW	Gipps Dairy	Murray Dairy	Subtropical Dairy	Western Dairy	WestVic Dairy	Australia
		CAGR %	CAGR %	CAGR %	CAGR %	CAGR %	CAGR %	CAGR %	CAGR %	Million litres
High growth	FY20–25	2	4	2	3	0	0	0	3	9,567
	FY26–30	4	4	4	4	4	4	4	4	11,640
Medium growth	FY20–25	2	4	2	3	0	0	0	3	9,567
	FY26–30	1	2	1	1	0	0	0	1	10,027
Drift/ decline	FY20–25	-2	3	0	-1	-1	-3	-1	0	8,520
	FY26–30	-2	0	0	-1	-1	-3	-1	0	8,190

Farmgate value

To convert milk volume scenario outcomes to total farmgate value, a national milk pricing outlook trajectory has been assumed. This assumes an average compound annual growth rate of 3 per cent (in nominal terms), as has been observed in the period since full deregulation in FY01. This assumption has been revisited in the wake of the disruption associated with COVID-19, and reaffirmed on the basis that whilst value capture will face renewed challenges, other macroeconomic balances (such as a lower AUD/USD rate) and longer term global consumption trends are likely to support nominal pricing. It is worth noting that the base period for this assumption includes the immediate aftermath of full deregulation of Australia's dairy industry, as well as the Global Financial Crisis, and 2015–2017 market downturn. To neutralise the impact of the short term price cycle on long term outcomes, the base year for projection has been set at the most recent five–year average price.

Historical and projected national average pricing is shown below on Figure 3.

It is important to note that the projected CAGR represents an average track. Year-on-year pricing changes will continue to be volatile, and as a long term view the projection does not try to predict individual price cycles. The average CAGR captures growth net of these cycles, over the outlook period.

By applying farmgate price assumptions to production scenarios, a set of farmgate value outcomes can be derived. These are shown by region and scenario for the year FY25 in Table 2.

Similarly, the outcomes as at the year FY30 are shown in Table 3.

Figure 3 Historical and projected farmgate price

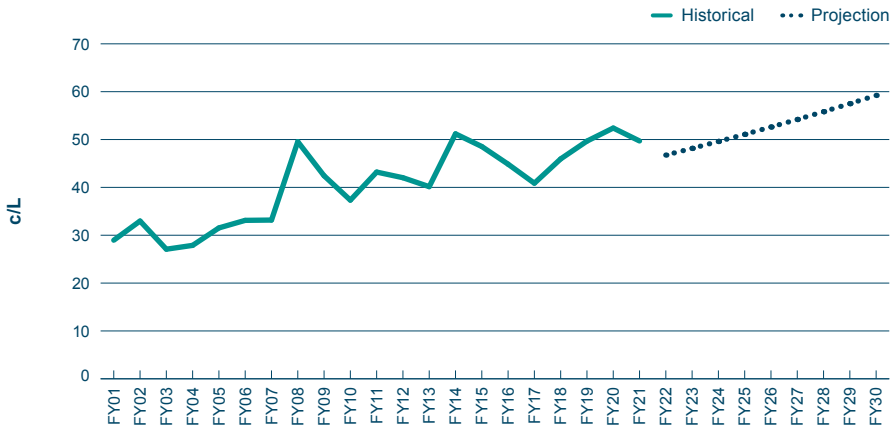


Table 2 Farmgate value by dairy region, by scenario – FY25

FY25 value A$m	Dairy SA	DairyTas	Dairy NSW	Gipps Dairy	Murray Dairy	Subtropical Dairy	Western Dairy	WestVic Dairy	Australia
High growth	258	584	482	1,132	886	264	187	1,083	4,887
Medium growth	258	584	482	1,132	886	264	187	1,083	4,887
Drift/decline	208	562	437	944	848	232	177	937	4,352

All monetary values provided in nominal terms

Table 3 Farmgate value by dairy region, by scenario – FY30

FY30 value A$m	Dairy SA	DairyTas	Dairy NSW	Gipps Dairy	Murray Dairy	Subtropical Dairy	Western Dairy	WestVic Dairy	Australia
High growth	360	824	680	1,597	1,250	373	263	1,528	6,893
Medium growth	311	739	588	1,396	1,027	306	216	1,336	5,938
Drift/decline	213	652	507	1,033	941	236	196	1,062	4,850

All monetary values provided in nominal terms

Economic impact

A comprehensive analysis of the economic contribution of the Australian dairy industry was conducted in FY15 by Econsearch. This fundamental piece of work produced a set of multipliers that, under appropriate assumptions, be used to project economic impacts of a given change in milk production and farmgate value.

Although economic relationships (and thus multipliers) change over time, comparison of different scenarios under the same economic assumptions helps to illustrate the scale of the difference in ultimate outcomes.

The analysis concluded that the direct injection into the community from dairy farming averaged around 80 per cent of the total farmgate value of milk, and that this was augmented by additional, flow through benefits averaging 1.61 times the direct figure. At the time of the analysis, the direct injection of $3.4 billion (80 per cent of farmgate value) into the community corresponded to a total direct and flow-through benefit of $8.8 billion in economic contribution (2.61 times the direct benefit).

From an employment perspective, each $1 million of turnover generated 8.56 jobs (full time equivalent) in farming, processing and flow on services through the community.

Applying these multipliers to a future medium or high growth scenario where the Australian dairy industry is Profitable, Confident and United, produces the outcomes shown in Table 4. By 2030, the divergence between the medium and high growth scenarios produces a range in outcomes. There is an uplift of over one billion litres of milk produced, based on the FY20 forecast. As additional context, Table 4 depicts the equivalent outcomes as modelled by ACIL-Allen for their $100 billion by 2030 analysis.

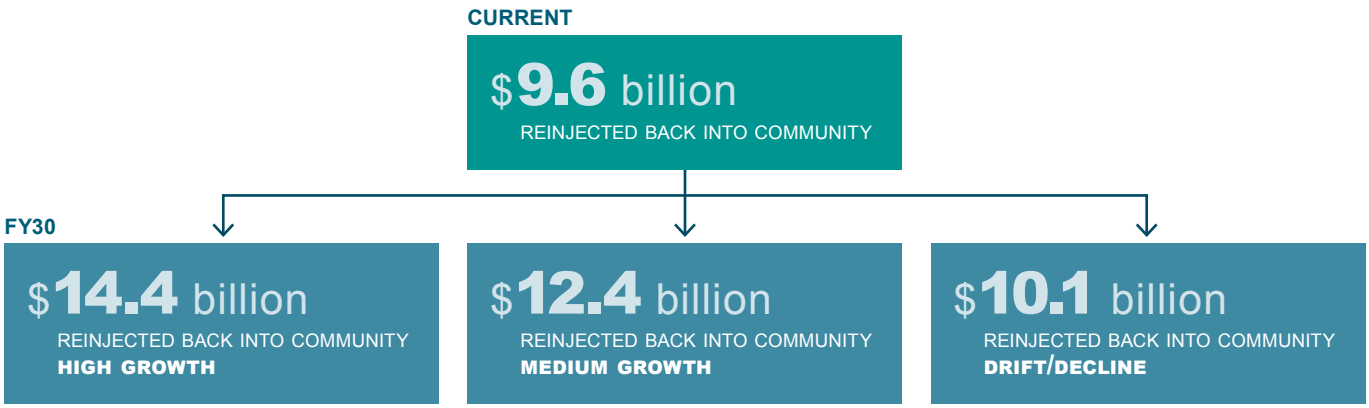
Key differences between the ACIL-Allen analysis and scenarios discussed in this document are derived from a lower CAGR for farmgate prices assumed in the ACIL-Allen modelling, partly offset by higher volume growth projections.

Table 4 Indicative economic outcomes of a profitable, confident and united industry

Australia	Industry data FY20	FY25 range	FY30 range	ACIL-Allen FY30
Milk volume (billion litres)	8.7	9.6	10–11.6	12.0
Farmgate value ($ billion)	4.6	4.9	5.9–6.9	6.3
Total economic contribution* ($ billion)	9.6	10.2	12.4–14.4	13.3
Total employment*	43,500	48,000**	50–59,000	54,340

*Assumes same multipliers and economic relationships as 2014–15, and Dairy Plan reaches primary objectives (excludes drift scenario)
**FY25 projection assumes proportional growth of employment with milk production

Figure 4 Indicative future economic impact



Assumes equivalent multipliers. Total dairy multiplier: Australia, direct: 1.00, flow-on: 1.61, total: 2.61

Regional constraints and risks analysis

The Australian Dairy Plan (Dairy Plan) provides an opportunity to build a more Profitable, Confident and United Australian dairy industry.

This is an ambitious goal, and despite the best efforts of all involved, will still face many of the overarching external risks that have impacted the industry in decades gone by.

These risks include those that characterise the physical environment, such as natural disasters and climate change, which have the potential to cause severe short-term damage and also force disruptive and costly structural adjustments over the longer term. The challenges of the broader economic environment also present risks. Access to capital, cost of capital, and the impact of fluctuating exchange rates – most notably at times of significant external growth events such as the mining boom – have direct impacts at both the industry and individual business level.

Market access faces ongoing risk, with the potential for both short term disruption and longer-term disadvantage relative to key competitors, carrying significant implications. Finally, whilst growth in dairy demand is strong (and predicted to remain so), challenges from competing protein sources, as well as the impact of economic shocks such as COVID-19 on consumer purchasing power, mean that healthy returns can never be taken for granted.

The Dairy Plan presents a whole-of-industry approach to meeting these challenges. Assuming a successful development and implementation phase, numerous other constraints will weigh on milk production at the regional level. Drawing upon the original Pathways to Profitable Growth (PTPG) analysis, updated to reflect recent developments, these constraints are outlined in the following tables (5 to 13).

The ability of the industry to meet and overcome these challenges will define the degree to which growth tends towards a high growth, or medium growth outcome by 2030.

Table 5 Constraints and risks – national

Land availability
Increasing competition for land around primary dairy, coastline and population centres
Feed base and climate
Increased diversity and variability of climate, growing reliance on management ability
Water
Increasing connectivity, competition for and pricing of water
Cows
Some reliance on heifer sales for cash flow but good potential pool of replacements
Finance, capital and investments
Significant desire to invest in Australian industry because of quality and safety attributes. However, some challenges with sharefarmers or equity levels outside 'normal' criteria. Bank finance slower and more difficult to obtain post-Banking Royal Commission
Roads, transport and telecommunications infrastructure
Challenges with infrastructure bottlenecks. Increased volume lowers incremental cost
Labour and skills
Share farming and alternate models key to creating wealth and pathways in/out of industry

Supports growth or not expected to hinder growth Some impediment to growth Significant restriction to growth

Table 6 Constraints and risks – Murray Dairy

Land availability	Land available at a reasonable price, but issue is it will be largely sold without water. Operational challenges associated with dryland farming
Feed base and climate	Heavily dependent on access to water. Plenty of productive capacity of feedbase in region, primary concern is access to economically viable water. Ability increase yields per ML applied. Ability to grow heat tolerant species
Water	Access to water at a competitive/sustainable price point is a major challenge
Cows	Large production pool, good sale infrastructure. Some Bovine Johnes Disease (BJD) restrictions, but no comparative disadvantage to other Victorian production regions
Finance, capital and investments	Land priced attractively but combination of land and water infrastructure adds complexity to investment proposals. Land and water combined still feasible option to higher land value areas. Bank financing likely to become increasingly challenging given recent financial history of the region
Roads, transport and telecommunications infrastructure	The region is well connected in terms of road and rail infrastructure. Also has secondary port access
Labour and skills	Share farming on 14% of farms. Proximity to Melbourne and other agriculture areas attracts temporary workers. Opportunity to share skills and labour across other ag markets particularly horticulture and grains e.g. agronomists
Peak flow processing capacity	Investments in cheese processing capacity and underutilised drying capacity elsewhere in the regions provide options to efficiently handle increase in regional production capacity. Diversity of processors and specialised operators

Supports growth or not expected to hinder growth Some impediment to growth Significant restriction to growth

Table 7 Constraints and risks – GippsDairy

Land availability	Increased demand and competition from investors, urbanisation, and lifestyle investors. Competing land users like vegetable growers expanding in region, and good returns for beef and lamb producers reducing any incentives for conversion. A traditionally tightly held region reduces the frequency of land coming up for sale, and often the land parcels up for sale are quite small
Feed base and climate	Plenty of local productive feedbase capacity, but location offers some barriers to easy (cheap) transport of supplementary fodder and grain to the region
Water	More vegetable growers in the region increases demand on irrigation systems and increases water price with the additional demand
Cows	Large production pool, good sale infrastructure. Some BJD restrictions, but no comparative disadvantage to other Victorian production regions
Finance, capital and investments	Significant interest in investing into the region, both from a processing and production perspective
Roads, transport and telecommunications infrastructure	Most areas well connected, but Melbourne is a barrier to other parts of Victoria
Labour and skills	Significant presence of share farmers (around 20% of farms). Proximity to Melbourne and other agriculture areas attracts temporary workers
Peak flow processing capacity	No planned increase in cheese production and utilisation of powder dryers as infant formula dryers reduces available capacity. However better utilisation of some existing plants could lift regional processing capacity

Supports growth or not expected to hinder growth Some impediment to growth Significant restriction to growth

Table 8 Constraints and risks – WestVic Dairy

Land availability	Increased demand and competition from investors (including beef/sheep) creating upward pressure on land values. Also coming off 'normalisation' of strong lift in land values
Feed base and climate	Areas on regional fringe becoming increasingly variable. Access to grain production areas is an advantage but may require investment to maximise. Feed base could be a significant impediment to growth depending on how the whole market recovers from the drought. Is the current farming system 'fit for purpose' in terms of plant species and management?
Water	Central inland district more exposed to water availability issues, but general water access and usage limitations apply. Regulatory impediments at present to water licence exchange. Actual bore water shortage in some parts of the region during dry seasons
Cows	Large production pool, good sale infrastructure. Some BJD restrictions, but no comparative disadvantage to other Victorian production regions
Finance, capital and investments	Significant interest in investing into the region, both from a processing and production perspective. Despite low interest rates, lending more restrictive now, fewer investors than 5 years ago
Roads, transport and telecommunications infrastructure	The region is well connected in terms of road and rail infrastructure. Also has secondary port access. However road conditions not good and blackspots in telecommunications
Labour and skills	Share farming on 20% of farms. Combination of investment, exits and proximity to training institutions helps labour and skills situation. Designated Area Migration Agreements (DAMA) and other schemes may help a little, but these are expensive
Peak flow processing capacity	Capacity to process significant volumes of milk into powders and access to recently commissioned capacity in region and in adjacent SA. Milk shortage in northern Victoria, NSW and Qld also pulling milk out of the region

Supports growth or not expected to hinder growth Some impediment to growth Significant restriction to growth

Table 9 Constraints and risks – Western Dairy

Land availability	Opportunity to convert from beef to dairy around Scott River and South Coast, but otherwise there are limits to potential dairy area. Moving to areas of lower land value would be undertaken with some caution given the current geographical spread of farms and the large distance per pickup
Feed base and climate	Local supply of fodder largely isolated from feed pools on the east coast – this is opportunity and a risk. WA has already experienced a shift in regular rainfall and has been managing the increasing feed gap during summer. Shifts in rainfall have seen dryland farms in recent years, have no more than three grazing rotations
Water	Ongoing challenges around efficient and responsible use of water
Cows	WA is free of BJD and liver fluke. Distance from eastern states restricts pool of economically viable milking cows available to purchase. WA remains a closed herd. This situation impacts on market models for sharefarming and retired asset utilisation
Finance, capital and investments	Current scale of processing plants are not necessarily cost efficient or are underutilised. Revolving ownership creates business strategy for 'sale' not growth. However WADE Agri undertaking a feasibility study for a 24,000 cow barn at Badgingarra, with associated dryer/infant formula assets planned
Roads, transport and telecommunications infrastructure	Some advantages in access to demand markets and Nullarbor offers some protection (also reduces options for dealing with surplus)
Labour and skills	Significant alternate employment opportunities and isolation from eastern states. Continued erosion of the critical mass of dairy farm business numbers puts pressure on outside providers to provide on farm services at a reasonable cost. Service providers (consultants, agronomists, nutritionists etc) increasingly shifting to other industries
Peak flow processing capacity	Some processing options present but likely to constrain future growth. No drying capacity, no butter production, a small amount of cheese production (limited at this stage by a lack of whey processing) and some export capability in fresh lines. Ongoing uncertainty around ownership of processing assets and medium to longer term access to markets. Current scale of processing plants are not necessarily cost efficient or are underutilised

Supports growth or not expected to hinder growth Some impediment to growth Significant restriction to growth

Table 10 Constraints and risks – Subtropical Dairy

Land availability	General competition for land around prime dairy areas, especially within 100km of coastline. If total mixed ration (TMR) inputs are grown by dairy operator, additional land required
Feed base and climate	Significant recent issues with climate induced reductions in home grown fodder and increases in the cost of purchased feed. Seasonal variability getting harder to manage with volatility in rainfall event frequency, and lower annual totals. Lower reliability of rainfall during the wet season. Compared to other regions, PMR and TMR systems are more prevalent and farming system transition to offset variability should be less challenging given experience in this area. Very low investment in perennial tropical forage development relative to temperate regions
Water	Access to, and the costs of pumping water (both diesel and electricity are increasing issues. Predictability of water supply also an issue given climate variability. Population growth and the lack of investment in dams driving conversion of water usage from agriculture to urban
Cows	Low risk of BJD but exposed to arboviruses and tick-borne diseases. Qld has low risk for BJD and revised National BJD Management Strategy may continue to limit introduction of cattle from the south. There are no problems sending young stock south; however the reverse is not true, so the herd can only be rebuilt from home grown stock. Smaller scale of farms in the region leading to higher overhead costs per litre versus temperate regions
Finance, capital and investments	Advantages associated with comparatively low leverage of average farms. Financiers may be more conservative with lending to Qld given recent growth profile and confidence in the region. Opportunity exists for integrated value chain investment, but scale required is much larger
Roads, transport and telecommunications infrastructure	Well established road networks, can export from Brisbane, but competition from other sectors for access to export infrastructure
Labour and skills	Share farming on 5% of farms. TMR and PMR systems create more potential for full time employment. Retention of skilled labour depends on the skills of the employer and having the appropriate HR and IR systems in place. The average age of service providers in this region is very high. Within the next 10 years, 80% of these will retire. There is not a sustainable succession plan
Peak flow processing capacity	Limited drying capacity, would only be an issue after substantial growth. Currently no excess supply in the region even during spring. All factories run on balancing deficits with southern supply

Supports growth or not expected to hinder growth Some impediment to growth Significant restriction to growth

Table 11 Constraints and risks – Dairy NSW

Land availability
Issue especially around Sydney and south coast as prices increase, development for housing and lifestyle blocks makes expansion, entry and sourcing support blocks difficult. Bega and mid north coast a little less affected. Places like Hunter competing with vineyards and mines. As more typical dairy country on the coast becomes overpriced or unavailable the move inland is possible but has a higher reliance on water
Feed base and climate
Close proximity to grain pools, but challenge in managing increasing variability and managing excessive rainfall in conjunction with hot, dry summers
Water
Regional variability in access to water, particularly in context of irrigation water. Inland is typically a more intensive production system, in environments less suited to year round quality pasture growth. Feedbase is from fodder crops as part of a PMR/TMR. Needs reliable water supply. Currently this is proving to be an issue in areas like Forbes, Wagga and Tamworth
Cows
Limited ability to relocate stock due to biosecurity reasons will mean rebuilding will take time as stock are reared
Finance, capital and investments
Some impediments present, but no worse than many other states. Existing investments set precedent
Roads, transport and telecommunications infrastructure
Relative expense of shipping milk from central NSW to coastal areas for processing or export
Labour and skills
Difficult to attract skilled labour in many areas, also applies to support services as dairy's relevance in an area declines compared to other forms of land use. Areas of NSW are losing/lost critical mass in terms of dairying. As farm numbers decline and some farms get larger, the number of people required and the nature of the skills in areas is changing. Large farms can be more complex and require higher degrees of specialisation for few individuals. A steady supply of skilled individuals will be required to ensure growth
Peak flow processing capacity
Limited powder drying capacity and product options to switch between products for capacity or market signal requirements

Supports growth or not expected to hinder growth Some impediment to growth Significant restriction to growth

Table 12 Constraints and risks – Dairy SA

Land availability	Reasonable availability, although pricing can be comparatively high because of competition
Feed base and climate	Farming systems already shifting to accommodate variability. Good access to grain and fodder. Greater volatility in climate not only affecting home grown forage but also, fodder supply and price, grain price
Water	Increasing variability, prevalence of permits and restrictions on access depending on area. Broader concern about future restrictions and price of water, cost of power stands out the most in irrigation now a significant cost per tonne of feed grown, southeast region has many centre pivots 10–15 years old that will need capital investment
Cows	Some BJD restrictions, not a huge local pool of cattle to draw on. Seems to be plenty of cows for sale in recent years. Increased export heifer sales could become a larger constraint, but somewhat offset by more dairies and also beef/hobby farms rearing dairy heifers for export market
Finance, capital and investments	Interest present in new investment and maximising current processing plant capacity
Roads, transport and telecommunications infrastructure	Challenges around road deterioration in regional areas, still poor mobile phone service in many areas, poor internet in many areas, confidence low in NBN upgrades for regions. Electricity cost and reliability are top of mind
Labour and skills	Share farming on 21% of farms. TMR and PMR systems create more FTE employment
Peak flow processing capacity	Multiple recent start-ups with further potential capacity increases, expansion of smaller processors

Supports growth or not expected to hinder growth Some impediment to growth Significant restriction to growth

Table 12 Constraints and risks – DairyTas

Land availability	Competitive (albeit increasing) land prices, supporting infrastructure and in reasonable rainfall areas. Competition from horticulture (including potatoes, poppies)
Feed base and climate	Climate broadly supportive but increasing variability may open feed gap
Water	Growing irrigation infrastructure, dairy land in supportive rainfall areas
Cows	Limited local pool of cows but supportive environment encourages growth and access to cattle
Finance, capital and investments	Significant preparatory work done to support external investment. Desirable investment area. Recent tightening of lending practices post-banking Royal Commission observed
Roads, transport and telecommunications infrastructure	Short distances between processing and export infrastructure plus limited traffic congestion
Labour and skills	23% share farming, industry plan communicated and investment education infrastructure in place. Ongoing need to train managers/2ICs
Peak flow processing capacity	Current capacity sufficient for short term growth, but will require additional processing investment in future to maintain trajectory

Supports growth or not expected to hinder growth Some impediment to growth Significant restriction to growth


Dairy
Australia

Disclaimer

Whilst all reasonable efforts have been taken to ensure the accuracy of the Australian Dairy Plan, use of the information contained herein is at one's own risk. To the fullest extent permitted by Australian law, Dairy Australia, Australian Dairy Farmers, Gardiner Foundation, and Australian Dairy Products Federation disclaim all liability for any losses, costs, damages and the like sustained or incurred as a result of the use of or reliance upon the information contained herein, including, without limitation, liability stemming from reliance upon any part which may contain inadvertent errors, whether typographical or otherwise, or omissions of any kind.

ISBN 978-1-925347-88-3 (digital)

1575.23 Sept 2020