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JULY
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The Australian Dairyfarmer

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What started as two cows a decade ago has now grown to a 300-cow milking herd on the NSW south coast. But for Brodie Game it has not been an easy road. Mrs Game and her husband Kevin, who run Blackjack Holsteins at Bemboka, NSW, have battled more than most entering the industry.

Read her story on page 52.

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Celebrating women in dairy

THE highly anticipated opening milk prices for the 2020/21 season were released on June 1.

In line with the recently introduced Dairy Code of Conduct, processors were forced to publish their standard form agreements on their websites by 2pm.

While the prices were lower than last year, they were a little better than what some analysts had predicted.

It was not all smooth sailing, however, with some claiming the new process was convoluted.

Queensland Dairyfarmers Organisation executive officer Eric Danzi said: "Unless you've got someone to analyse the contracts, it makes it really hard to compare or figure out the prices."

The advice from United Dairyfarmers of Victoria president Paul Mumford was to "do your own due diligence, understand your business, and how your farm generates a profit".

Victorian-based journalist Marian Macdonald was kept busy following the story as it unfolded. (See article page 12.)

In this time of uncertainty, as the repercussions of COVID-19 continue to be felt across all parts of the global economy, it is great to see our dairy farmers recognised for their unwavering efforts.

Western Australian dairy processors Bannister Downs Dairy and Brownes Dairy each received kudos at the 2020 Australasian Packaging Innovation and Design awards.

The dairies earned gold medals for innovative design of their products' packaging (see article page 26).

There were more award winners in the Apple Isle, where Active Dairies Pty Ltd, owned by Grant and Kim Archer, was named the 2020 ANZ Tasmanian Dairy Business of the Year.

It is the fourth time the Archers have won the award, making them the most successful farmers in the history of the awards (see article page 58).

Also, receiving accolades were Venezuelan veterinarians Genaro and Rosselyn Velasquez, of Edith Creek, Tasmania.

The couple took out the 2020 Fonterra Share Dairy Farmer of the Year Award.

Genaro and Rosselyn left the political and social crisis in their home country in 2009, travelling 17,000 kilometres in search of a better life, and they have hit the ground running. (See article page 60.)

'Women are not just playing a supporting role on-farm, they are often centre stage.'

While Cressida Cain from the Southern Highlands in NSW was named the winner of the 2020 NSW-ACT AgriFutures Rural Women's Award recently.

Cressida plans to support small-scale dairy farmers and help them transform their businesses and become more profitable via an online hub called Dairy Cocoon.

Journalist Samantha Townsend has been singing the praises of dairy farming women across NSW, with her profiles recognising their achievements.

Our front cover features a photo of Brodie Game, who runs Blackjack Holsteins with her husband Kevin at Bemboka on the NSW south coast.

Like many young couples trying to make their way in dairying, they have faced seemingly insurmountable obstacles along the way.

But their passion and drive have prevailed and they continue to forge a dairying future not only for themselves but for generations to come (see article page 52).

Women are not just playing a supporting role on-farm, they are often centre stage.

Women are an essential, often hands-on, driving force behind many a dairying business' success. It is only fitting that their everyday achievements are celebrated.

Acting Editor

Hayley Warden

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The Australian Dairyfarmer

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MILK MATTERS
provided by Australian Dairy Farmers Ltd
Australian Dairy Farmers

Stop supermarket discounting

Key points

- ✔ Woolworths has committed to exending its 10 cents a litre levy on Home Brand milk
- ✔ ALDI, Coles and other retailers should also state their commitment
- ✔ A permanent solution is needed.

By **Terry Richardson**
ADF president

The price farmers pay for energy, and water and fodder for their cows remains high, but the retail price for their milk has stayed stubbornly low for almost a decade.

THE time is right for supermarket retailers to put their money where their mouths are and restore value to the dairy supply chain.

Woolworths recently announced a commitment to extend its 10 cent per litre levy on Home Brand milk for another year, with the money going back to farmers.

The retailer estimates that its levy on Home Brand milk, first initiated during the 2018 drought, has so far delivered around $50 million to farmers, and expects this 12-month extension to contribute another $30m to the industry.

Support for farmers is always welcome and ALDI, Coles and other retailers should also state their commitment to continue their similar arrangements.

But while these initiatives satisfy a short-term objective, at some point we need to consider a permanent solution. Dairy farmers, who are battling increasing production costs and volatile seasonal conditions, need certainty.

The price farmers pay for energy, and water and fodder for their cows remains high, but the retail price for their milk has stayed stubbornly low for almost a decade.

As a start, any increase to the price of discount dairy products should be built into the farm gate milk price.

But more importantly, if we are serious about aiming to curb the rate of dairy farm exits in Australia, industry leaders must investigate any mechanisms that will increase value along the supply chain right up to farmers. This includes assessing options to inform market support measures, such as consideration of any proposal involving government-imposed levies.

'The time is right for supermarkets to end this decade of discount dairy and show our farmers just how much they're worth.'

Of course, any conversation concerning potential regulation of the dairy industry is going to be complex and highly sensitive. The Australian dairy sector really comprises six state industries, each with their own positions on regulation. A national solution to improving farm gate returns for farmers requires the agreement and support of each state.

ADF, in a submission last year to the Senate inquiry into the performance of the dairy industry since deregulation, recommended that the price of generic milk brands be raised to $1.50 per litre until changes are made to the *Food and Grocery Code* to establish appropriate value distribution up the supply chain to dairy farmers.

This increase to $1.50 per litre would reflect the inflation rises farmers should have received over the last decade to account for the current cost of production.

Since 2011, the average profit for a dairy farm in Australia has been $41,553 per annum.

We lost nearly 500 dairy farms in one year between 2018 and 2019 and since 2011, more than 1500 have left the industry.

Federal Agriculture Minister David Littleproud has also supported a voluntary retail levy on milk to support dairy farmers. He argues that it would allow the market to respond, with consumers making purchasing decisions that benefit farmers.

It is gratifying to know the Federal Government is also committed to finding a solution that will benefit dairy farmers. But ultimately, it is up to industry to provide the government with that answer.

Any solution must be a team effort, supported by farmers across the country because, no matter how you look at it, dairy farmers work hard every day to provide Australians with a nutritious product that is a staple of most diets. Yet while we watch the retail prices of other fresh food products fluctuate with demand, the shelf price of milk remains stubbornly flat.

The time is right for supermarkets to end this decade of discount dairy and show our farmers just how much they're worth. D

Dairy code faces first test

Key points

- ✔ The code has helped give farmers more opportunity to assess every processor's milk supply agreement
- ✔ This is a vital change to past years
- ✔ It gives farmers more power to choose which processor they want to negotiate.

By **Terry Richardson**
ADF president

THE Dairy Industry Code of Conduct has faced its first test.

All new milk supply agreements must now comply with the code. Dairy processors were required at the start of June to release their opening milk prices and publish their milk supply agreements on their websites.

There was significant anticipation about these announcements in the lead-up to June 1, the first time that processors would be required to release their opening prices simultaneously.

As a result of the international COVID-19 pandemic, some analysts predicted opening prices as low as $5.70 per kilogram of milk solids (kgMS). While we haven't reached that horror scenario, prices have still reflected a cautious approach given the current market conditions.

But where the code has helped is in giving farmers more opportunity to assess every processor's milk supply agreement and the prices they are offering. This is a vital change to past years, and gives farmers more power to choose which processor they want to negotiate with for the 2020/21 financial year.

This clause resulted in some processors quickly revising their opening prices to be more competitive. On that score, the code has been successful.

However, it's worth noting that not all processors complied with the key requirement to publish milk supply agreements on their websites by 2pm on June 1. A scan of processor websites does show that on the whole, compliance with this deadline was very good.

ADF also devised a standard form contract template on the request of the Federal Government to safeguard both farmers and processors from potential breaches of the code, and that document is publicly available on the ADF website for anyone to use in developing their own milk supply agreement.

'The clause resulted in some processors quickly revising their opening prices to be more competitive.'

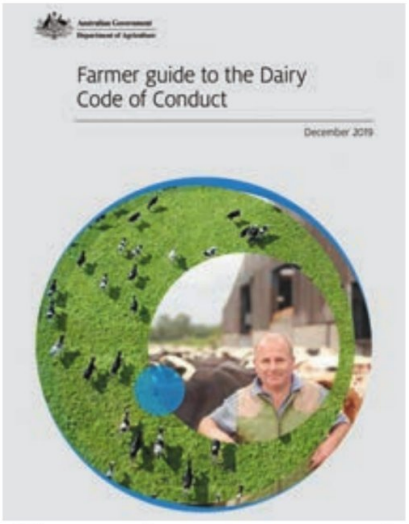
Of course, we expect all farmers and processors to comply with the code. The next test of the code's effectiveness will be in how processors manage potential changes to their milk prices.

I hope that the market will improve and provide an opportunity for processors to offer farmers some price step-ups. But in the exceptional circumstance that a processor has to institute a prospective price step-down, it cannot be reduced below the minimum price, or what was offered on June 1.

It is extremely important that farmers and processors comply with the code of conduct so that they don't risk being penalised in a way that could jeopardise their business

The Australian Competition and Consumer Commission (ACCC) is responsible for enforcing the code and investigating alleged breaches.

The competition watchdog, in its 2018 dairy inquiry, made several recommendations related to contracting practices, including that milk supply arrangements should be acknowledged in writing, processors should provide farmers with all contractual documents before the start of their agreement, and that those agreements should be simplified.



All farmers and processors are expected to comply with the Dairy Industry Code of Conduct.

The code does not apply to farmers and processors with a milk supply agreement that was entered into before January 1 2020, unless that contract is varied or renewed.

All contracts, no matter when they were entered into, must be compliant with the code from January 1 2021. D

Survey shows industry in recovery

Key points

- ✔ Survey confirms dairy farmer confidence has risen over 12 months
- ✔ 44 per cent of farmers reported feeling good about the future of the industry
- ✔ It appears confidence is rising across the industry.

By Terry Richardson
ADF president

I'M feeling confident about the future of the Australian dairy industry. Yes, there are a lot of issues affecting us, such as the lingering impact of drought, production costs, discount dairy products, the misleading labelling of non-dairy alternatives as "milk", and shifts in the global market.

But if there is one thing the COVID-19 pandemic has showed us, with all the panic buying that occurred earlier this year, it is that dairy will always be a staple household item.

And it appears confidence is rising across the industry. The National Dairy Farmer Survey, conducted annually by Dairy Australia, has confirmed that farmer confidence in their own businesses and the future of the Australian dairy industry as a whole has risen over the past 12 months.

While overall confidence remains lower than in 2018 and 2017, 44 per cent of farmers reported feeling good about the future of the industry. This is a marked improvement from last year, when just 34pc felt positive about the industry's future in the survey's worst ever result, but still far below the historic high of 78pc recorded in the 2008 survey, before the Global Financial Crisis.

Even more encouragingly, more than two-thirds of farmers surveyed (67pc) reported feeling positive about their businesses, a massive 22pc jump from last year. This is the highest level reported since Dairy Australia started measuring own business sentiment in 2017.

We can feel buoyed by the fact there has been an improvement in farmer sentiment on every score since last year, when the ballooning cost of feed and water eroded farm profitability despite stronger than average opening milk prices.

More than two-thirds of farmers surveyed (67 per cent) reported feeling positive about their businesses.

'We can feel buoyed by the fact there has been an improvement in farmer sentiment on every score since last year.'

Nearly two-thirds of farmers surveyed in 2019 said they were concerned about the cost and availability of feed, while just 43pc expect to make an operating profit.

Encouragingly, 70pc of farmers surveyed this year expected to make a profit, while 48pc of farms anticipated an increase in production volumes for the year ending June 2020.

Significantly more farmers in all but one region reported they were expecting higher profits in 2020 than have been achieved on average over the past five years. Unsurprisingly, regions with the largest share of profitable farmers also reported the highest levels of confidence in their own business.

All of this comes even as prolonged drought, bushfires and high feed and water costs continued to be major concerns prior to the survey. It seems farmers are ready to invest in their businesses, buoyed by a favourable start to the season.

As has been reported, these statistics show a dairy industry in recovery, although it is unclear whether this confidence will continue to grow in a post-pandemic environment.

What has been confirmed by Dairy Australia's *June Situation & Outlook Report* is that demand for dairy remained strong during the panic buying that accompanied the COVID-19 pandemic.

But while farmers are feeling more positive about their individual businesses, there has only been a modest boost in confidence since last year for the future of the industry. Last year, just 34pc of farmers surveyed felt optimistic about the industry's future – the worst result in the survey's history.

While there has been a 10pc jump in overall confidence this year to 44pc, there is still a long way to go before we can approach pre-GFC levels of confidence.

That is the challenge facing the Australian Dairy Plan. A confident industry is one of the Dairy Plan's key objectives, with a goal to boost milk production up to 9.3 billion litres per year by 2024-25. This would generate more than $600 million annually in extra value at the farm gate and stimulate the growth of at least 1000 direct new jobs, mostly in rural and regional areas.

There are a lot of factors involved in sustaining a confident industry. But if the trend in farmer confidence continues, I have no doubt that we will go a long way towards achieving our goal over the next five years.

Blockchain technology key to future

Key points

- ✔ Blockchain technology is successfully used by dairy producers overseas
- ✔ ADF has been contracted to develop a real time dairy payment system and supply chain information sharing capacity
- ✔ New technology will help improve the profitability and confidence of the industry.

By **Terry Richardson**
ADF president

THE Australian dairy industry must grab every opportunity it can to stay globally competitive.

While demand for dairy products continues to rise around the world, Australia's share of the global dairy trade has slumped from 16 per cent in the 1990s to just 6pc today.

Added to that, the number of dairy farms in Australia over the same period has declined from 15,000 to just over 5000.

Australian dairy farmers are increasingly under pressure to reduce costs while they continue to produce high-quality, nutritious milk enjoyed by families around the world.

Of course, the biggest challenges start outside the farmgate. In 2018 the Australian Competition and Consumer Commission (ACCC) found there was a power imbalance between farmers and processors. This power imbalance, along with uncertain world market prices, discount supermarket milk and processor margins, has impacted farmgate pricing.

Initiatives that have been implemented to help resolve this bargaining imbalance include a mandatory code of practice, milk trading platform, and standard industry contracts.

But aside from this, the Australian dairy industry must also continue to adapt and embrace technology if it is to stay competitive.

Blockchain technology is already successfully used by dairy producers overseas, and Australian Dairy Farmers (ADF) has been contracted by the Federal Government to develop a real time dairy payment system and supply chain information sharing capacity using this technology.

Blockchain and distributed ledger is a decentralised, peer-to-peer network. It gives each farmer and processor their own 'node', keeping information secure and private.

Blockchain and distributed ledger is a decentralised, peer-to-peer network.

'When a farmer sells milk, supply chain events are recorded on the shared ledger and linked to the contract.'

When a farmer sells milk, supply chain events are recorded on the shared ledger and linked to the contract. Both the farmer and the processor can see this instantly.

The ledger keeps a record of contracts, milk that's been ordered and delivered, milk quality testing results, payments etc.

Only the farmer and the processor can add information to their shared ledger so they each know both see the full history of their shared business relationship.

This information cannot be adjusted or changed without the knowledge of the other, although regulators can view information to monitor the industry but can't change the ledgers.

Payment is made between bank accounts as normal, with receipts automatically recorded and linked to the contract. And smart contracts can be included to eliminate payment delays.

Competitors cannot see each other's commercially sensitive contracts or contacts.

The transparency of shared information using Blockchain technology empowers our dairy farmers.

Blockchain technology will reduce costs to compete more aggressively in local and global markets.

It will also allow greater knowledge of what happens to a farmer's milk once it leaves their farm.

It will provide consumers with trusted information about where their milk comes from.

And it will provide access to reliable information to improve efficiencies along the dairy supply chain.

Blockchain, and other new and emerging technologies, will be integral to helping improve the profitability and confidence of our dairy industry, two key objectives of the Australian Dairy Plan.

Our dairy industry will be well-placed to play our role in contributing to the National Farmers' Federation's (NFF) target for the value of Agricultural production to exceed $100 billion by 2030.

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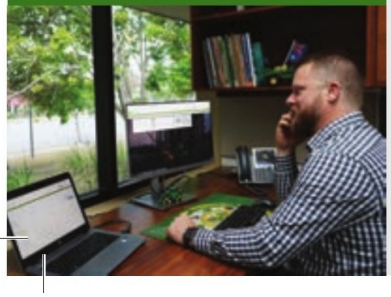

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Dairy Plan gets ready to be delivered

By **John Brumby**
Independent Chair of Australian Dairy Plan

Partner organisations launch the draft Dairy Plan in Gippsland in December

Key points

- ✔ Dairy Plan close to completion after final round of consultation
- ✔ Contains clear vision and practical measures to improve industry
- ✔ Organisational Reform Steering Committee appointed

AS I write, the finishing touches are being made to the Australian Dairy Plan.

After a final round of industry consultation, I believe this will be a document of which the industry can be justifiably proud.

I would like to acknowledge the time and effort invested in the preparation of feedback by all industry stakeholders on the draft plan.

The plan has impressive scope, a clear vision for what is needed to improve the industry and lays out a series of practical measures and initiatives to help this come about.

It represents an enormous undertaking by many individuals and organisations right across the industry. For most, this additional work has been on top of their other responsibilities. At the start of this process nearly 18 months ago, dairy leaders were clear that they wanted this to be an industry-driven activity. The consultation exercise alone was an extraordinary commitment of time and resources.

Workshops in 25 locations across the country involving over 1500 people allowed us to gather a wide range of views about the changes needed and to distil key themes. Our National Workshop last July enabled us all to test and fine tune key directions.

The exhaustive industry consultation process doesn't mean that every view has been captured in the plan or that every element enjoys 100 per cent support. But the consultation phase did enable us to identify consensus opinions and solutions which groups of farmers and others believe can make a real difference.

Supporting analytical reports produced by the plan's partner organisations are all of a high quality and have greatly assisted industry debate about key issues and directions. I commend their authors for tackling these major pieces of research, often under significant time pressure and in addition to their day to day tasks.

> ***'This is the first time that all the peak groups have come together to agree on a national plan.'***

Once the plan is finalised, our focus must be on delivery. At meetings along the way, I've heard people say that this will be just another report that gathers dust on shelves. I don't share that view. This is the first time that all the peak groups have come together to agree on a national plan and key directions. I can assure you that a process is being put around the plan, so that those assigned tasks and projects will be held to account in the months and years ahead to ensure that key commitments are held to and implemented.

Reform of industry structures and advocacy arrangements is clearly a crucial element of the Dairy Plan and the piece of work around which many other proposed changes rely. The industry's current representative structure needs an overhaul, and this observation was voiced at every consultation and roundtable meeting I attended.

Preparatory work on industry reform is already well underway following the publication of the Joint Transition Team's (JTT) recommendations in late January. The challenge now is for farmers, processors and other stakeholders to shape these proposals and agree on the new structure.

With COVID-19 restrictions now being gradually eased, the recently formed Organisational Reform Steering Committee will apply continued focus to this work and industry consultation, with the added support of an Engagement and Design Team comprising former Meat and Livestock Australia Managing Director David Palmer and professional services firm EY.

As the experience in other agricultural industries shows, reform of industry structures is a challenging and demanding task. But in the case of dairy, I strongly believe that the process we have put in place to build the plan from the ground up is exactly the right one and that the key directions and commitments of the plan are crucial for longer term growth and viability. The final piece of the jigsaw is to finalise the reform arrangements prior to a national vote.

For more information on the Australian Dairy Plan visit: www.dairyplan.com.au

Farmgate prices down but not crashing

Key points

- ✔ Farmgate milk prices lower than last year
- ✔ Choosing the right milk supply agreement far from simple
- ✔ Finding milk supply agreements on some processor websites challenging.

By **Marian Macdonald**

JUNE 1's farmgate milk price announcements were lower than last year's but have been greeted with some relief by dairy farmers.

"The opening prices are a little better than what some analysts predicted, but they still reflect a cautious approach given current market conditions," Australian Dairy Farmers president Terry Richardson said.

"We're hopeful that the market will improve to provide an opportunity for some price step-ups, because farmers still have to manage high production costs."

Bega Cheese chairman Barry Irvin said the prices were good news.

"We've managed to insulate (farmers) from some of the extremes of the market that we've been experiencing in recent weeks and months," he said.

He said any further COVID-19 outbreaks were unlikely to constitute the exceptional circumstances that would permit a stepdown.

"Bega's got a very strong record of not stepping down that was demonstrated, particularly in recent years, and you can never 'say never' because, of course, something globally extreme could occur," he said.

"But I think there's much nothing much more extreme than what's been experienced with COVID-19.

"So it would be our endeavour to avoid it in all but very trying circumstances."

United Dairyfarmers of Victoria president Paul Mumford said prices were about 15 per cent lower than last year's opening announcements but there was still room for increases.

Minimum farmgate milk prices as at June 3, 2020

Processor	Standard minimum price
ADM	
ADM organic	
ADM A2	
ADFC	
Bega southern Vic	
Bega northern	
Bonlac	
Bulla	
Burra 1 year non-exclusive	
Burra 1 year exclusive	
Burra 3 year exclusive	
DFMC northern Vic 1 year fixed price exclusive*	
DFMC northern Vic 1 year variable price exclusive*	
Fonterra non-exclusive	
Fonterra exclusive	
Freedom Foods	
Lactalis Victoria/Tas	
Tatura	

*Does not include productivity, quality incentives
This table for general information only, please seek individual advice.

Minimum farmgate milk prices as at June 3, 2020.

Minimums visible but messy

Almost every Australian dairy processor waited until the last few hours - or minutes - before the deadline to publish standard form agreements elapsed at 2pm on June 1.

But while the code gave agreements visibility, understanding them was another matter, said Queensland

'The opening prices are a little better than what some analysts predicted, but they still reflect a cautious approach given current market conditions.'

Dairyfarmers Organisation executive officer Eric Danzi.

"It was certainly a positive that processors are forced to disclose minimum prices all on the same day to give some clarity to farmers," he said.

"However, unless you've got someone to analyse the contracts, it makes it really hard to compare or figure out what the prices were."

South Gippsland dairy farmer and consultant, Rebecca Casey, was working on spreadsheets until late in the evening and said choosing the right milk supply agreement was far from simple.

"Farmers really need to be aware of what they're signing; they need to take the time to uncover the devil in the detail," she said.

"Some supply agreements are 10 pages long and others are 45 pages."

United Dairyfarmers of Victoria president Paul Mumford agreed the complexity of different processor pricing created challenges.

"We couldn't really compare apples with apples because some of the processors don't charge a collection fee or a litre fee," he said.

"You've got to do your own due diligence, understand your business, and how your farm generates a profit."

Mr Mumford said "people were frantically scrambling around trying to find information" and said the code could be refined over the next 12-months to create a "one-stop shop".

Finding the standard milk supply agreements on some processor sites was a challenge, and Fonterra yesterday increased its price from $6.06 to $6.40/kgMS, citing competitive pressure.

Mr Mumford wasn't surprised by the hiccups.

"All of these processors wouldn't announce their opening milk price for at least another three weeks, if not five weeks," he said.

Processors disclosed their minimum milk prices all on the same day, June 1, 2020.

"Some years we saw prices coming out after the first of July, historically.

"So, there's an element of the processors getting their own ship in order."

Bega Cheese chairman Barry Irvin said the code reflected many of the company's existing practices.

"It meant that we, of course, did have to apply resources and create a slightly different relationship with suppliers that's more formalised. But I'd say that in general, that was something that we were happy to embrace and I think it's important that we just accept the code and get on with the changes that it's brought about." D

ACCC announces investigation

Key points

- ✔ UDC 'glad' not to have displayed milk supply agreements on its website
- ✔ Code requires processors to publish their milk supply agreements on their websites
- ✔ Non-compliance with the code can cost $63,000 per breach.

By **Marian Macdonald**

THE Australian Competition & Consumer Commission has announced it is investigating possible breaches of the mandatory Dairy Code of Conduct by dairy processor, Union Dairy Company.

UDC has defended its decision not to publish milk supply agreements on its website in line with the mandatory dairy code of conduct.

ACCC deputy chair Mick Keogh said the watchdog was investigating and, breaking with its usual practice of declining to name companies, singled out UDC.

"We are actively monitoring compliance with the dairy code and are closely engaging with farmers and processors," Mr Keogh said.

"We are aware of compliance concerns about some processors, including UDC.

"We are investigating this matter."

Not complying with a penalty provision in the code can attract penalties of 300 units, the equivalent of $63,000 per breach.

UDC collects milk from about 100 farms in south-west Victoria and south-eastern SA and is part of the Midfield Group.

Anyone wanting to access a UDC standard form milk supply agreement must fill in a request form with all their contact details, cow numbers, litres produced, processor currently supplied and even the approximate distance from UDC's facilities.

The code's requirements for processors to publish their milk supply agreements on their websites by June 1 is enforced by the ACCC, which has this statement on its own website:

"The ACCC considers that a processor must make the standard form MSAs available to the general public, not behind a portal or other barrier."

"The ACCC also considers that a link to the processor's standard form MSAs should be prominent and clearly visible on the front page of the processor's website."

The ACCC is investigating a dairy processor for possibly breaching the Dairy Code of Conduct.

'We believe that our original agreements were compliant and we haven't changed anything from the agreement.'

UDC chief operating officer Andrew Wellington said he was unaware of any possible code breach until contacted by *Australian Dairy farmer.*

"Until you've asked this question, we hadn't really seriously considered that we had done the wrong thing," he said.

"We didn't use a legal team.

"We refuse to pour a whole heap of money into a legal review of what we're doing because it's money farmers aren't going to get."

Mr Wellington said UDC's leadership team had decided to publish an opening average milk price for the 2020-21 season with a short "statement of circumstances".

"If there was genuine interest, we'd just give it to people," he said.

"And rightly or wrongly, we didn't put the document there for a click.

"And I'm glad that it wasn't now, because we received all of our inquiry on the phone ... The only people that have gone through the web to access it are competitive processors."

In any case, he said, "We're certainly not behind a portal."

"And we don't think that that's a barrier. It's just if you're a farmer, we'll get it straight out to you."

Mr Wellington did not say whether UDC would make the milk supply agreement public.

"I think we need to have a look at the review of the code and will it be done differently next year?" he said.

UDC's small leadership team had been working hard to steer the processor through the COVID-19 upheaval and it had not had any interaction with the ACCC, Mr Wellington said.

"We believe that our original agreements were compliant and we haven't changed anything from the agreement," he said.

"We had to just put in a minimum milk price number but in essence, everything else we had in our existing agreement met the rules.

"And I think that's probably why our suppliers like dealing with us because we're incredibly transparent with our prices."

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Code changes shock ACM suppliers

Key points

- ✔ Email leaves farmers confused
- ✔ Some suppliers receiving a lower milk price in return for an upfront payment
- ✔ Some suppliers receiving a lower milk price in return for an upfront payment.

By **Marian Macdonald**

AN UNINTENDED consequence of the mandatory dairy code has sent shockwaves through some farmers supplying Australian Consolidated Milk.

In early June, the processor sent emails to suppliers who had taken a 1-cent-a-litre sign-on incentive upfront in exchange for signing three-year contracts.

South-west Victorian farmer, Emma*, said the recent email from ACM sent on a Tuesday had left her confused.

"At first, I thought they were offering a bigger advance on milk cheques," she said.

Instead, the email was explaining that the sign-on incentive her family had accepted last year at the beginning of their contract did not comply with the mandatory dairy code of conduct.

"In the circumstances, ACM proposes to convert the Sign-On Incentive, which is part of your existing Milk Supply Agreement (MSA) into a CAPL [Committed Advance Payment Loan] which is an interest free loan ... there will be no negative effect on your cash flow, as compared with the arrangement you have been used to until now," the email, signed by ACM managing director Michael Auld, said.

A distressed Emma* said she was shocked to be saddled with a new debt.

"It just feels like a clawback," she said on the Thursday.

But in a second email, sent on the Sunday afternoon, ACM moved to clarify the change.

Australian Consolidated Milk's processing plant at Girgarre, Victoria.

"It was then the supplier's choice as to whether they wanted to receive the 1 cent per litre on a monthly basis or have the Sign-on Advanced to them in their August payment," the new email said.

"The Sign-On Advance was interest free and was intended to assist suppliers with their cash flow by getting more cash up front."

In other words, Emma and her family had been unknowingly receiving a lower milk price than other suppliers in return for the upfront payment.

**Emma's identity has been protected.*

Dahlsen plan to rescue dairy farming

Key points

- ✔ Campaign aims to increase the price of drinking milk in supermarkets
- ✔ Proposal suggests the government would mandate the supermarket drinking milk levy through an independent entity
- ✔ Concept does not violate WTO rules.

DAIRY farmers could be far better off within weeks if the grassroots can jolt its leadership into action, a prominent Victorian businessman said.

Former board member for Woolworths and ANZ bank, John Dahlsen, is campaigning to increase the price of drinking milk in supermarkets.

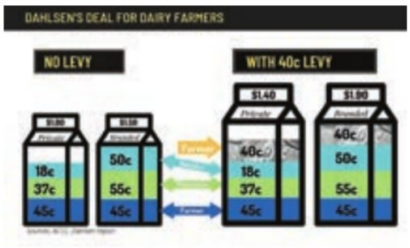
Mr Dahlsen said a retail levy would benefit every Australian dairy farmer and was simple to implement, realistic, and critical to the industry's future.

"Australia has the cheapest milk in the world by a mile, and they are very efficient farmers," Mr Dahlsen said. "Yet our sector is declining and its export prowess is declining - so what's wrong?

"The dairy farmers haven't done anything wrong, they're hardworking people but what I've learned is that they're so blindsided, so disillusioned."

Set at 40 cents a litre, the levy would return $220,396 to the average Australian dairy farmer with 273 cows producing 1.6 million litres of milk a year.

The idea has been endorsed in principle by the United Dairyfarmers of Victoria (UDV) but, with an average of nine dairy farmers leaving the industry every week last year, Mr Dahlsen said there was no time to wait for a chain of national committees to act.



Under the Dahlsen plan, 40 cents from every litre of drinking milk sold would be shared among all Australian dairy farmers, irrespective of which processor they supply.

"Once, dairy was quite a strong sector; it's just steadily going downhill," he said.

"That isn't because it hasn't been written about - I think this is one of the most reported-on sectors with the most "talkfests" that I know but nothing happens."

He is determined his own 107-page report will break the cycle and restore the confidence of dairy farmers.

The proposal suggests the levy paid to farmers should be shared among those whose milk was manufactured into other products, like cheese.

Mr Dahlsen said his report justified an urgent and significant economic boost for the industry, ensured all the money would flow to farmers rather than processors or supermarkets, and showed an increased milk price was affordable for consumers.

He said milk sold in Australian supermarkets was among the cheapest in the world, with the report stating a 40c/ltr rise would bring the value of domestic milk closer to the global average of $1.70/ltr but well below the developed world's $2.40/ltr.

Former Woolworths chairman John Dahlsen. Photo courtesy of The Dahlsens Group.

How the plan would work

The proposal suggests the government would mandate the supermarket drinking milk levy through an independent entity.

While Mr Dahlsen suggested a levy of 40c/ltr in the first year, it would be annually reviewed by the ACCC, taking into account submissions from industry stakeholders.

The levy would apply to all types of drinking milk, including flavoured and UHT.

Irrespective of the processor they supplied, every Australian dairy farmer would get a share of the money in line with their milk production for that month.

Sharing the proceeds among those whose milk was manufactured into other products, like cheese, would mean 40c/ltr at the supermarket translated to 13.3c//ltr at the farm gate.

Dairy farmers' monthly production figures were already collected to

'Australia has the cheapest milk in the world by a mile, and they are very efficient farmers, yet our sector is declining and its export prowess is declining - so what's wrong?'

calculate mandatory levy payments to research and development body, Dairy Australia, as well as other statutory payments.

OK for free trade

Mr Dahlsen also consulted an eminent trade expert, Melbourne University professor of the practice of international trade Gary Sampson, to check whether it would violate World Trade Organisation (WTO) rules.

Prof Sampson cleared the concept, making three points about the proposal in a letter to Mr Dahlsen.

First, to be classed as subsidies, any price supports had to be funded by governments but, "As you state in your letter, what you are proposing 'does not involve any contribution by Government but simply by the consumer ...'," Prof Sampson wrote.

"On this basis, it would appear that your proposal would not be subject to WTO disciplines on subsidies."

They also had to relate to exports or the use of domestic over imported goods, which did not apply to the Dahlsen proposal.

And third, he added, "If a government considered the proposal to be covered by the agreement, they would have to be prepared to take the case to the WTO Dispute Settlement System and prove injury to their own industry.

"This would be a tough call."

If it made imports more attractive, he warned, any trade restrictions would raise a "new set of questions".

Why Mr Dahlsen?

Mr Dahlsen said his interest was sparked by conversations with relatives, Chris and Peter Nixon, who run a large dairy and beef business out of Orbost, NSW.

In what he described as being in the "twilight" of his career, Mr Dahlsen is a competition economist and lawyer, former chairman of Woolworths and The Herald & Weekly Times, co-founder of Southern Cross Broadcasting, long-time ANZ director, and chairman of hardware company, JC Dahlsen.

Mr Dahlsen said he had no financial interest in the dairy industry.

"I've had a lot of experience in various areas as a competition economist and a competition lawyer and, where I don't think the public interests have been served, I've gotten involved," he said.

Since November, Mr Dahlsen said he'd spent about a third of his time studying the dairy industry, reading "masses" of reports and ground-truthing his conclusions with the Nixons and other dairy farmers. D

WHAT A LEVY WOULD MEAN TO THE AVERAGE 273-COW FARM

RETAIL LEVY (C/L)	TO FARMER (C/L)	ANNUAL BENEFIT
20	6.7	$111,026
30	10.0	$165,711
40	13.3	$220,396

The proposed retail levy would apply to all drinking milk, including UHT, and be shared among all Australian dairy farmers.

Milk decline questions for everyone

Key points

- ✔ Calls for a 40 cent a litre retail levy on milk
- ✔ Dairy Australia forecast lowest production since 1995
- ✔ Farmgate prices vary widely.

By **Marian Macdonald**

AGRICULTURE Minister David Littleproud believes Australians should not take fresh milk on supermarket shelves for granted.

"If they're not treated fairly, then we're going to hit a tipping point where there won't be enough dairy farmers in this country to continue to supply fresh milk to Australians right around the country," Mr Littleproud said.

He also took a swipe at processors and supermarkets, demanding they pass more money on to farmers.

Does he have a point or is he taking things too far?

Peak lobby body Australian Dairy Farmers (ADF) seems to think so, recently calling for a 40 cent a litre retail levy on milk.

"There is no doubt that discount products have had a severe impact on the dairy industry throughout the past decade," an ADF spokesperson said.

"The reasons why a farmer chooses to leave the industry are often complex, but farmers face consistently high input costs while the retail price of discount milk has remained relatively flat since 2011."

The supermarket

Coles seemed to point the finger of blame at processors.

"Last year we introduced a direct contract model for Coles-brand milk in Victoria and central and southern NSW which allows us to deal directly with farmers rather than through a processor," a spokesman said.

"This model provides farmers with certainty of income through longer-term contracts and delivers some of the highest farmgate prices in the industry.

"The arrangement is working well and we're looking to roll it out more broadly across other states.

"Coles is also committed to ensuring Australians have access to affordable household staples, particularly at a time when hundreds of thousands have lost their jobs.

"Widespread increases in dairy prices risk harming the industry by reducing demand for Australian dairy products and making them uncompetitive against cheaper imported products."

It did not respond to follow-up questions about the feasibility of importing fresh milk.

The processors

Processor peak body Australian Dairy Products Federation chairman Grant Crothers took a positive view.

"Let's start by celebrating the growth in milk in parts of the southern region," he said.

"And it's wonderful that we've got record farmgate milk prices and excellent seasonal conditions that are giving many dairy farmers a great year.

"Unfortunately, we live in a diverse country and we can't say that those conditions are unilateral across the nation.

Australian Dairy Products Federation chairman Grant Crothers says farmers in many parts of the southern region have much to celebrate.

"But for many, many dairy farmers in the southern region, which produces something like 75 per cent of the nation's milk, it's true."

He said a levy on fresh, white supermarket-branded milk would only represent about nine percent of the milk produced by Australian farmers.

It could also have serious implications.

"What the minister and ADF are calling for is a price increase on 750 million litres and also, by inference, the introduction of the 'haves and the have-nots' because it is such a state issue," Mr Crothers said.

While the cost of production varied enormously around Australia,

'Processors and supermarkets should pass more money on to farmers.'

retailers were "wedded" to a uniform retail milk price.

"I dare say, in Hervey Bay that bananas are a lot cheaper than they are in Hawthorn or in Hamilton," he said.

"But generic milk is the same price.

"Processors have no control over that and have no influence over that.

"They don't have any influence on the production costs and they don't have any influence on a retailer's selling price."

Asked why supermarkets could pay farmers more for milk than processors, Mr Crothers was direct.

"There's a very small premium and they're in a very stable market that's like a one-trick pony: it does one thing, at one price, every day of the year," he said.

"There's no volatility within reason, there's no foreign exchange risk, there is no competition from New Zealand, America or Europe, there is no innovation.

"And they will decide their own retail margins on a product by product basis, so they have a lot of influence.

"If the industry wants us to revert to being a white-milk-only market without innovation, with a ceiling on consumption, then that's up to government to structure accordingly."

Brains trust

According to Dairy Australia's InFocus report, there were 486 fewer registered dairy farms in 2018/19, something DA put down to, "a range of factors including drought conditions in some regions, land competition from other agricultural sectors and an ongoing shift to larger farms."

Peak lobby body Australian Dairy Farmers recently called for a 40 cent a litre retail levy on milk.

In fact, all the provisional industry-level metrics for 2018/19 are grim reading.

That 9pc drop in dairy farm numbers is the highest recorded annual exodus, production is down 6pc, and cow numbers are down 7pc off an already weakened base following the 8pc national cull in the crisis year of 2015/16.

In March, Dairy Australia forecast production of 8.35 and 8.5 billion litres, the lowest since 1995.

But what matters most to dairy farmers, and underpins the sustainability of the industry, is farm profitability.

And, on that crucial point, we're largely in the dark.

Asked how the cost of production compares with the farmgate milk price, DA noted farmgate prices varied widely between farms and across the year, even within regions.

It said current full-season farmgate prices for southern, export focused regions and WA ranged from around $6.60 a kilogram of milk solids to $7.50/kgMS, roughly 51 to 58c/ltr.

Prices in the fresh milk regions were generally in the $7.50 to $9.40/kgMS range, or 58-72c/ltr.

"Most key drivers of cost of production remained at similar levels to the 2018/19 equivalents reported in the Dairy Farm Monitor Project results (accessible on the DA website)," a spokesman said.

"Figures for 2019/20 will be compiled and released once the season's costs and milk payments are finalised."

The DFMP put the average cost of production for the farms it surveyed at $6.50/kgMS.

Unfortunately, the DFMP isn't representative, report author Clare Waterman agreed.

"This is 75 farms that we sample to see what's happened on those farms - we definitely want to avoid drawing conclusions about farms across the industry."

But are we close to losing the ability to put fresh milk on supermarket shelves? DA's not convinced.

"We don't see a risk to Australia's fresh milk supply. Australia will produce around 8.5 billion litres of milk in the 2019/20 season, 25 to 30pc will be sold as drinking milk," a spokesperson said. D

Woolies extends 10c 'drought levy'

Key points

- ✔ Woolies' milk levy for private label lines extends until June 2021
- ✔ Payments expected to contribute an extra $30m to its 450-plus farmer suppliers
- ✔ Coles, Aldi and other retailers urged to follow Woolworths' lead.

By **Andrew Marshall**

WOOLWORTHS is extending its "drought levy" retail price on fresh two and three litre house brand milk lines for another year, expecting to generate about $30 million in extra payments to its milk producer suppliers.

The supermarket will also establish a separate $5m fund to provide infrastructure and technology grants to help farmers lift efficiency and profitability in the next three years.

The 10 cents a litre retail levy was introduced Australia-wide in February last year, ending the supermarket's eight-year commitment to controversial "dollar milk".

It has raised about $50m for dairy farmers since Woolworths the initiative started at a local level in September 2018.

Peak dairy body Australian Dairy Farmers applauded the supermarket's public commitment to continue its discount milk price at $1.10/l, distributing the extra 10c back to farmers, while also urging Coles, Aldi and other retailers to follow Woolworths' lead.

However, ADF also called for the consumer levy to be built into the farm gate milk price in the long term.

Originally Woolworths' 10c retail price levy applied only to a specific line of drought relief milk bottled for Queensland and NSW stores.

The higher retail price acknowledged soaring farm input costs for drought-caned east coast dairy farms and saw the retailer funnelling payments back to all NSW and Queensland dairy farmers supplying its private labels.

The response from sympathetic consumers was so strong, Woolworths extended the 10c levy across its housebrand range five months later, phasing out its drought milk line.

Drought levy broadens

Although autumn rain has relieved dry conditions in many parts of eastern Australia, drought conditions linger, especially in southern Queensland.

Woolies has opted to maintain its levy commitment, although broadening the levy terms so the funds generally help farmers lift on-farm profitability.

Based on current volumes, these support payments are expected to contribute an extra $30m to its 450-plus farmer suppliers by June 2021.

The company said extending the support would help provide certainty on farms supplying its Woolworths brands.

The move coincides with the dairy industry's mandatory code of conduct taking a new step as processors revealed their prices and contract arrangements for the year ahead.

'If we are to stop farm exits and hardship, then all retailers need to increase the price of their store brand retail fresh milk to $1.50 with the increase going back to farmers via their processors.'

Customer support

"Our levy has already provided much-needed relief to dairy farmers and we're grateful for our customers' support of the program," said Woolworths fresh food director Paul Harker.

"While conditions have improved and farmgate prices have gone up since we started the levy in 2018, we're extending payments to provide certainty while dairy farmers and processors find their feet under the new mandatory dairy code.

"To build on our existing support, we're also working to establish a dairy fund to offer financial grants for dairy farmers to invest in new infrastructure or technology to improve profitability."

The $5m fund would be paid for independently by the retailer in addition to the money collected from the consumer levy.

Woolworths was engaging with dairy industry stakeholders on the design of the program and expects to open for applications later this year.

ADF said it looked forward to working with Woolworths on future initiatives to maintain a sustainable dairy industry, including its new $5m fund.

Woolworths' original drought relief milk range attracted an extra 10 cents a litre retail price which was later rolled out Australia-wide across the retailer's house brand range.

However, chief executive David Inall noted the farmer body believed sustainability would be greatly improved if generic milk prices increased to $1.50/litre, at least until changes were made to the Food and Grocery Code to establish appropriate value distribution up the supply chain to farmers.

"If we are to stop farm exits and hardship, then all retailers need to increase the price of their store brand retail fresh milk to $1.50 with the increase going back to farmers via their processors," he said.

No changes at Coles

Coles said it would continue to collect 10c/litre from the sale of its $1.10/l house brand milk for distribution to farmers.

Between March 20, 2019 and May 31 this year Coles had provided processors approximately $21.8m from the 10c levy for distribution to farmers.

In South Australia and Western Australia it also dedicated 40c from the sale of each two litre bottle of SADA Fresh and WA Farmers First milk to the state's respective milk producers.

Coles, which began direct sourcing milk from suppliers in Victoria and NSW last year, also established its Sustainable Dairy Development Group investing $1.9m to support research farming sustainability, new technology and business development.

Additional financial support was made to contracted farmers to help them with water needs as drought conditions deteriorated last summer. D

Coles expands direct contracts to SA, WA

Key points

- ✔ Coles will offer contracted producers guaranteed farmgate prices
- ✔ Coles' house brand fresh milk was previously sourced entirely from dairy processors
- ✔ Dairy farmers are being offered one or two-year contracts.

By **Andrew Marshall**

AFTER testing the market in NSW and Victoria, Coles will expand its direct milk purchasing plans to farmers in South Australia and Western Australia.

The supermarket's private labelled Coles fresh white milk sourcing model will offer contracted producers guaranteed farmgate prices.

Coles launched its new milk sourcing strategy in Victoria and southern and central NSW last July, signing up farmers with what it promised were competitive farmgate prices to match, or beat, rival milk brands.

The deal effectively bypasses the traditional supermarket buying model which contracted processors to source milk from farmers and supply it from their own pools.

Coles' house brand fresh milk was previously sourced entirely from dairy processors under contracts which relied on processors rather than the retailer to set the farmgate price.

The new model has Coles milk packed under contract, as usual, by the processor. Under its new sourcing model, Coles pays a farmgate price directly to farmers, and then relies on a toll processing agreement.

In SA and WA it has set up toll processing arrangements with Lion Dairy and Drinks, Brownes Dairy and Lactalis Australia. Dairy farmers are being offered one or two-year contracts, with guaranteed prices.

Coles commercial and express chief executive, Greg Davis, said the arrangement would provide farmers with income certainty and the confidence they needed to plan.

"By offering farmers the opportunity to lock in a price and giving them choice on the length of contract, Coles is investing in the long-term sustainability of our suppliers and the Australian dairy sector," he said

'We are committed to investing in sustainable dairy farming, and the success of our direct sourcing model shows that it can make a real difference to our suppliers.'

Coles was pleased to collaborate directly with more Australian dairy farmers.

"We're proud of the relationships we have built with our directly-contracted farmers in Victoria and NSW to buy their high-quality milk, and we're thrilled to extend that model to work with farmers in SA and WA," he said.

Mr Davis felt new business models to improve returns for dairy farmers were an important part of addressing the long-term structural issues facing the dairy industry.

"We are committed to investing in sustainable dairy farming, and the success of our direct sourcing model shows that it can make a real difference to our suppliers," he said.

Farmers in South Australia and Western Australia interested in contracting part or all of their milk production to Coles can email milksupply@coles.com.au or phone 1300 995 141.

The new model has Coles milk packed under contract, as usual, by the processor.

Push for milk levy to right wrongs

Key points

- ✔ Possibility of permanent retail levy on fresh food in Australia emerges
- ✔ Consumers ask why the industry was ever deregulated
- ✔ Argument that market failure has occurred in dairy has substance.

By **Shan Goodwin**

IN THE wake of pandemic panic buying in supermarkets, the possibility of a first permanent retail levy on fresh food in Australia has emerged.

Leaders of the country's beleaguered dairy industry, along with agri-food experts and even political watchers, believe the mood has never been more ripe to get a legislated minimum price for a litre of milk on supermarket shelves across the line.

Years of devastation to a farming sector which holds strong affection in the hearts of Australians combined with growing consumer demands for provenance, low food miles and sustainably-produced food has set a new community sentiment.

Now, COVID-19 has added a food security demand that may just be the final element needed to reach a level of societal support for big change.

For those who have held some of the most influential roles in Australia's dairy industry, this is a remarkable development.

Sydney's George Davey was general manager of the NSW Dairy Corporation, a statutory authority that managed milk supply arrangements before deregulation in 2000.

The Dairy Corp - originally the Milk Board - bought milk from farmers in NSW under a quota system and supplied it to processors for the drinking milk market. It set the processing, distribution, retail and farmgate price.

It owned and marketed brands like Shape and Moove, and licenced processors to supply them. After deregulation, those brands were sold to private interests.

Farmers could trade their quotas on an exchange and any surplus milk they produced could be sold to processors for manufacturing products like cheese and ice-cream.

Prices were set via a formula in which costs of production for all those along the supply chain were plugged in. All were profitable.

"In today's dollars, consumers were paying more for milk yet there were never any complaints about the price of milk," Mr Davey said.

The regulated system had its roots in wartime, when governments sought to ensure its people and forces were fed.

It's effectiveness in a business where farmers have no ability to 'play the market', and where the food produced is considered by society a staple, kept it in place for decades.

Emotions run high

Dairy deregulation is peppered with emotional terms: the milk mafia, Victorian milk trucks invading northern

'There won't be enough dairy farmers in this country to continue to supply fresh milk for all Australians.'

regions to tear down markets, industry exodus, the peasants and royalty.

In 2020 consumers are showing support for a legislated levy and asking why the industry was ever deregulated in the first place is a complex story.

Victoria's John McQueen was chief executive officer of Australian Dairy Farmers for 20 years until 2007.

He said the loss of Britain as a market for Australian butter, when she joined the European Union in the early 1970s, was a key turning point.

More money has always been paid for drinking milk, because farmers have to supply it year-round.

The drinking milk market is primarily supplied out of Queensland and NSW where production costs are higher.

At the time of the butter market loss, Australia faced high tariffs and barriers on its dairy exports.

So Victorian and Tasmanian dairy farmers, who primarily produce for export, started looking towards the more attractive fluid milk market at home, Mr McQueen said.

When a free trade agreement with New Zealand saw tariffs on Kiwi dairy imports phased out in the 1980s, Australia's southern dairy business was even more at the mercy of a harsh global market.

Come the 1990s National Competition Council push to restructure the Australian economy and remove regulations to make it globally competitive, the die was cast.

"Assessments were made on the basis of a public benefit test," he said. "In the case of dairy, regulation was found to have a positive benefit apart from in Victoria where it was deemed the public was paying more for fluid milk than they needed to.

"So Victoria, which at the time produced two-thirds of Australia's milk, removed all its regulations."

That meant for Victorian processors, trucking their cheaper milk north into regulated drinking markets was attractive.

Deregulation was inevitable unless Australia was prepared to ban free trade between states.

The Howard Government's $1.25b package, which allowed for dairy industry exits, was funded with the help of a 11 cents a litre on dairy beverages which ran for eight years.

Down, Down

What nobody foresaw in the lead-up to deregulation was $1-a-litre supermarket milk.

Coles' Australia Day 2011 'Down, Down' campaign slashed the price of homebrand milk to below the cost of producing milk in most regions.

The strategy was to lure customers by accepting a loss on a product bought daily in the hope the traffic led to sales of higher-margin products.

Other supermarkets followed and within two years, farmgate milk prices for domestic drinking milk had fallen to all-time lows.

Mr Davey said as consumers became aware of dairy farms shutting up, sentiment turned.

"Meanwhile, provenance of food is gaining traction and distaste at the idea of food miles," he said.

Industry leaders believe it's time for a legislated minimum price per litre.

"Now COVID-19 has brought food security to the fore. It's taken 20 years but I think everyone finally gets it."

For and against

The case for a retail levy is straightforward. Milk has a tight shelf life. Farmers have to sell it as soon as it's harvested and that is why they are the ultimate price takers.

The laws of supply and demand have not worked so the argument of a dairy market failure has substance.

Without a permanent rise in the retail price of milk, many argue farmers will continue to be forced out.

Agriculture Minister David Littleproud urges supermarkets to lift milk prices voluntarily. Many producers say it has to be enforced.

ADF wants a divestiture regime amendment to the Food and Grocery Code.

The case against a levy, however, is also straightforward. It's anti-competitive. It would set a dangerous precedent.

Further, the trap would be in finding a mechanism that ensures the extra consumer dollars are transferred to suppliers. D

Bannister Downs and Brownes win

Key points

- ✔ WA dairies earn gold medals for innovative design
- ✔ Commitment to innovation and sustainability leads to success
- ✔ PIDA awards ceremony held digitally over two days due to COVID-19.

By **Mal Gill**

A COMMITMENT to sustainability has linked Western Australian dairy processors Bannister Downs Dairy and Brownes Dairy with wins at last week's 2020 Australasian Packaging Innovation and Design (PIDA) awards.

Ecolean won two gold medals at the PIDA awards as designer and manufacturer of the distinctive, biodegradable chalk pouch packaging of Bannister Downs' chilled pasteurised range of products.

As a consequence of the wins Bannister Downs' Ecolean packaging is now eligible to enter next year's WorldStar Packaging Awards where its practical advantages and environmental credentials will compete with those of other innovative packaging solutions from around the world.

Brownes Dairy's Tetra Pak renewable gable-top cartons made entirely from wood fibres and sugarcane, without need for a plastic membrane lining, won a silver medal in the PIDA awards' Packaging Innovation and Design of the Year - Beverage category.

Bannister Downs' Ecolean packaging won one of its gold medals in the same awards category, tying for first place with Coca-Cola Amatil's soft drink bottles made from recycled plastic packaging resins known as RPET material.

Judges found the light-weight, leak-proof, soft Ecolean packaging could be laid on its side and interlocked because of its shape taking up minimal space during transport, maintained coolness so the milk or cream inside remained fresher longer, could be frozen when sealed and microwaved to warm once the seal was broken.

The Bannister Downs pouch packaging also won a gold medal in the Accessible Packaging Design special awards category which is supported by Arthritis Australia and New Zealand.

Bannister Downs Dairy's Ecolean packaging won two gold medals at the 2020 Australasian Packaging Innovation and Design Awards and can enter the world packaging awards.

The pouches' jug-like shape and perforated tear-off opening at the spout meant it was certified easy-to-open and easy-to-use.

Bannister Downs Dairy managing director Sue Daubney said a shared commitment to innovation and sustainability had resulted in a 15-year partnership with Ecolean.

"We have been working with Ecolean since we began our Bannister Downs Dairy brand and can attest to the dedication that Ecolean has put towards developing a packaging system which does so much more than simply serve as the packaging for our products," Ms Daubney said.

"They have been a key part of the work we do to ensure our business is not only at the forefront of innovation, but also to have as small an impact on our environment as possible.

"We have always believed Ecolean packaging to be the stand out above all other available options, so we were delighted to hear their designs are being recognised by others."

Brownes announced last September it was switching 25 product lines, including white milk, cream and its CHILL flavoured milk range, from traditional polyethylene plastic-lined cartons to Tetra Pak's renewable cartons - involving about 17.8 million milk cartons a year.

Brownes was the first Australian company to use the renewable carton.

Brownes' chief executive officer Tony Girgis said the transition to sustainable carton packaging was almost complete, with only some 225 and 300 millilitre small-pack product lines still to change.

Brownes Dairy is the first Australian company to use renewable cartons without a plastic membrane liner and won a silver medal at the 2020 Australasian Packaging and Design Awards.

"We were disappointed we didn't get gold, as our submission was clearly unique and novel," Mr Girgis said.

"The winners in Ecolean pouches and RPET bottles have both been available for some years, while the renewable carton was a new innovation," he pointed out.

The PIDA awards ceremony was held digitally over two days because of COVID-19 restrictions, with more than 190 people registered to view the awards each day.

The awards, judged on sustainable packaging considerations, innovation in design and materials and changes undertaken to meet 2025 national packaging targets, have categories of Food; Beverage; Health, Beauty and Wellness; Domestic and Household and Labelling and Decoration.

The Packaging Innovation and Design of the Year - Food gold medal was won by a wool-lined, flat-pack, recyclable, biodegradable, renewable and compostable corrugated cardboard carton with fibreboard insert designed for the seafood industry to transport live lobsters to remove about 1.2 million polystyrene boxes from the seafood supply chain each year. D

AgriFutures win for Cressida Cains

Key points

- ✔ Award winner has big vision for small dairy
- ✔ Online hub to help dairy farmers create business and marketing plans
- ✔ Essential role women play in regional NSW rewarded.

By **Carlene Dowie**

THE winner of the 2020 NSW-ACT AgriFutures Rural Women's Award has a big vision for small dairy farmers.

NSW Southern Highlands sheep dairy farmer Cressida Cains wants to create an online platform to help small dairy farmers produce branded products.

Mrs Cains and her husband established their Robertson, NSW, dairy farm Pecora Dairy 11 years ago. They specialise in sheep milk products, including a range of cheeses and yoghurts.

"I am passionate about the dairy industry, I am a farmer and a cheesemaker," she said.

"I am passionate about helping small dairy farmers transform their businesses and become more profitable.

"I would really like to support small scale dairy farmers and help them transform their businesses and produce branded product."

Mrs Cains was awarded a $10,000 Westpac bursary for winning the award and wants to use it to create Dairy Cocoon, an online platform and support hub.

'I am passionate about helping small dairy farmers transform their businesses and become more profitable.'

The hub would help dairy farmers create business and marketing plans and access education resources and a support hub.

"In five years time I hope that Dairy Cocoon can make an impact on small dairy farms," Mrs Cains said.

"If we only save five dairy farms per year, so let's say conservatively speaking that's 25 small dairy farms, the modelling that I have done shows that has an impact of over 100 new jobs and also a total economic impact both direct and indirect of $112 million."

Mrs Cains said the coronavirus crisis meant now was an ideal time for dairy farmers to adapt, survive and thrive.

"COVID-19 will change people's buying behaviour forever, as industrial food systems are increasingly rejected in favour of local produce," she said.

She was also hopeful that her project would help turnaround the decline in the dairy industry.

"There are too many stories of multi-generational dairy farms who are closing their gates," she said.

2020 NSW-ACT AgriFutures Rural Women's Award winner Cressida Cains and runner-up Tammy Galvin.

"For instance, just in my area of Robertson and Kangaloon, there are numerous dairy sheds that litter the landscape, where once there was a thriving dairy industry.

"As a full-time dairy farmer, it is really heartbreaking for me to see the decline of this industry.

"I believe there is a bright and profitable future for dairy farming in this country."

NSW Agriculture Minister Adam Marshall congratulated Mrs Cains on her award win.

"Cressida is an outstanding winner and is passionate about supporting small scale farmers to adapt and grow their businesses," Mr Marshall said.

"She will use her bursary to create an online platform and support hub that will assist dairy farmers to develop and produce their own unique branded products."

SA exports to feed Asian appetite

Key points

- ✔ Beston seals deal to send 1000 tonnes of mozzarella to China
- ✔ Company on track to exceed revenues of $100m for the first time this year
- ✔ Lack of early success forced Beston to focus on dairy and meat.

By **Andrew Spence**

THE growing Asian appetite for pizza is helping to boost mozzarella sales for SA's largest cheesemaker.

Beston Global Foods has just sealed a deal to send 1000 tonnes of mozzarella a year from its factory near Jervois, SA, to China to be used by a pizza chain.

Mozzarella exports have grown from $2.5 million in the 2018-19 financial year and are on track to reach $18m this financial year.

The company's total cheese production in the first half of this financial year reached 5224t, up 83 per cent on the previous six months.

Mozzarella sales were also up 50pc for the half to 4290t. Beston has the capacity to produce up to 30,000t of cheese a year.

Dairy goods produced at Jervois and Murray Bridge, SA, represent about 90pc of the Beston business with meat products manufactured in Shepparton, Victoria, accounting for the other 10pc.

Despite the COVID-19 pandemic, the company is on track to exceed revenues of $100m for the first time this financial year.

The company's rise to become Australia's third largest mozzarella producer began when it opened a new $26.5m plant with a capacity of 16,000 tonnes a year in February 2018.

But it is only this financial year that its exports to South East Asia including Malaysia, Philippines, South Korea, Japan and now China have blossomed.

Beston chief executive officer Jonathan Hicks said the 1000t a year deal signed this month was the company's first major mozzarella contract in China and he hoped it would open the door to more Chinese sales.

He said Beston had the ability to alter its mozzarella recipe to suit individual customers, which was important in Asia as pizza styles varied between countries.

Beston Global Foods master cheesemaker Paul Connolly stretches mozzarella at the companys Jervois, SA, plant.

"If you buy a pizza in the Philippines it will have noticeably higher fat once the cheese has cooked, and that's how they want it, whereas in China they want a certain amount of stretch in their pizza cheese and very little browning and so it goes on around the world," Mr Hicks said.

"Our strength is very much our ability to develop recipes to target the end-user preference.

"Some of the customers we're dealing with are very large and will source mozzarella from a number of places to diversify their supply risk so we have a role to play in becoming an important part of their supply chain and a consistent and regular supplier so as they grow and we can grow with them.

"Mozzarella is a very functional product in terms of what happens in a pizza oven and what we're finding is that they liked using our mozzarella to give them the characteristics they want and they buy cheaper mozzarella from around the world to blend with ours."

The Asian pizza market is expected to grow by more than 20pc in the next five years.

Pizza Hut alone opened 1000 new restaurants in China in 2019.

Mr Hicks said as Beston became a major player in the Australian mozzarella market, the opportunity for further sales growth was in exports.

"We've had massive growth in the past 12 months in exports and we'll continue to invest in those Asian markets," he said.

The investment we're making uses the absolute latest technology which improves both the yield and the quality at a materially lower cost of operation.

"It's the emergence of that middle-class structure, an increase in disposable income and a general westernisation of diet across that greater Asian region driven largely by quick serve restaurants."

Domestic sales still make up about 80pc of Beston's dairy revenue.

Of that, about 60pc is sold to retailers to be packaged under their own brands, 30pc is sold to food service companies for use in pizza shops and restaurants and about 5pc is sold under Beston's own cheese brand Edward's Crossing.

Mr Hicks said the company's food service sales had taken a hit during the COVID-19 pandemic but that was being cushioned somewhat by increases in retail demand and new export contracts.

He said he was confident the food service orders would bounce back once restrictions were lifted, allowing Australian cafes and pizza shops to reopen.

"When this is all over I'm going to go out for a beer and a pizza along with 25 million other people so we're confident that will right itself," he said.

SA produces about 500 million litres of milk a year with Beston buying more than 20pc of it.

Beston is on track to produce around 9300t of mozzarella this financial year, and is using more than 110m litres of milk across its dairy business.

The company also plans to sell its five dairy farms in the south-east and lease them back to both fund expansion of its lactoferrin plant and reduce debt.

Mr Hicks said the company's farm assets were valued at $35m, $12m of which would be spent across six to eight months on expanding its lactoferrin plant, using the latest technology to boost quality and over quadruple production capacity.

Mozzarella, lactoferrin, whey and cream can all be extracted from the same litre of milk.

Beston had the ability to alter its mozzarella recipe to suit individual customers, which was important in Asia as pizza styles varied between countries.

Lactoferrin is a high-value dairy protein that is mainly known for its use in infant formula and is also used in dairy foods, dietary supplements, and pharmaceutical products including respiratory medications, cosmetics and oral hygiene products.

In February 2019, Beston announced it had completed the installation and commissioning of a freeze drying and milling facility at its existing lactoferrin plant.

This gave it the ability to produce the lactoferrin at Jervois in final product powdered form. Previously it had shipped liquid lactoferrin interstate to third party contractors for further processing.

The existing plant allows the production of 3t a year of lactoferrin but the upgrade will allow the quadrupling of production to 12t a year of the product, which can sell for up to $2500 a kilogram.

"The investment we're making uses the absolute latest technology which improves both the yield and the quality at a materially lower cost of operation," Mr Hicks said.

"A key prong of that strategy is to increase our earnings, sustain a very good rate for milk to procure more milk and to stimulate further investment on farm in SA for milk.

"We've got some extremely good sales relationships with lactoferrin so it is expected that a significant portion of what we will produce will be sold to multinational infant formula manufacturer however, we are also in the process of developing two retail lactoferrin products which will be sold in Australia and internationally."

The company listed on the Australian Securities Exchange in August 2015 with a focus on four strategic areas: Dairy, seafood, meat and health and nutrition.

But a lack of early success has now forced it to focus on dairy and meat.

"Some of those things haven't worked and during that time we've taken a few hits and the share price has suffered," Mr Hicks said.

"But we do have a very strong dairy proposition and an emerging meat proposition so since the beginning of last year there has been a significant review and refocus of the business."

The company expects to begin the lactoferrin plant investment in the next few months and have the expanded plant on line by late this year or early 2021.

It also plans to increase its milk supply to 130-150m litres of milk next year and reach full capacity mozzarella capacity in 2022.

Mr Hicks said Beston had also been developing a non-conventional mozzarella formulation in recent months to produce a cheese with good functional attributes and allowed it to compete head on with the cheaper United States imported mozzarella.

He said it was hoped the new mozzarella formulation would help Beston land a big customer in Australia either a major pizza chain or large-scale food producer.

"We are very happy to have the newest and frankly the best mozzarella plant in the southern hemisphere and we want to capitalise on that fact," he said. D

Seek help before stress becomes too much

Key points

- ✔ Seek help before the stress becomes too difficult
- ✔ There is limited access to help in the bush
- ✔ Hopes new project will deliver practical plans for farmers.

By **Marian Macdonald**

ROYSTON "Doc" Nettleton had been putting it off but the chest pains and headaches had become so bad, the dairy farmer reluctantly presented himself to his local hospital.

They kept him in overnight for tests but sent him home with a clean bill of health.

But after two or three similar hospital stays looking for the cause of the pain, a locum had some advice for the Orbost, Victoria, resident.

"Once they clear the old ticker, they think, 'Oh, well you're (physically) all right'," Mr Nettleton said.

"They just put it down to stress.

"The doctor told me to go on a big holiday and all that sort of stuff."

How realistic was the advice?

"Not realistic at all."

Dairy farmer and president of the Orbost-Snowy Rovers, Mr Nettleton is a busy man not known for taking holidays.

"When you're milking all-year-round and you're president of the local footy club, life's busy, you can't just run off for a holiday whenever you want," he said.

"I just tried to stop and start again and that was it, really, try to just do the best I could.

"I was just trying not to let things affect me as much, you know?

"I'm really good now, don't worry about that.

"Sometimes just some little things get you down but you get over it, move on, talk to my mates.

"Close mates check in on me, ask me how I'm going."

The stress had built up slowly as Mr Nettleton dealt with a combination of off-farm and on-farm issues, including the four-year drought afflicting east Gippsland and the dairy crisis.

Mr Nettleton said he thought there might be counselling available 60 kilometres away at Lakes Entrance but in his local town, the best option was to visit a general practitioner.

Royston Nettleton with Simon Barnes and Steve Ronalds launching Gippsland Jersey's mental health calendar. Photo by Gippsland Jersey.

It was important to push yourself to seek help before the stress got too difficult to handle, he said.

"Don't be afraid to go to your GP.

"The hardest thing is making the appointment, I find."

Self-doubt got in the way.

"What initially I'd think was, 'Is it worth going to the doctor, am I wasting everyone's time?', that sort of thing," Mr Nettleton said.

"But once you make an appointment, away you go, you front up for it."

Access inequity

Mr Nettleton's experience of difficulty accessing specialist help in far east Gippsland is borne out by the numbers.

The more rural you live, the higher your risk of suicide, alcohol and drug use, and the more likely you are to spend a night in hospital to deal with intentional self harm or mental illness.

But none of this is because you're more likely to be mentally ill - those rates are the same as if you lived in the city - it's more likely linked to another key statistic: access to help.

Good help really is hard to find in the country and the statistics that appear in a new Swinburne University report bear that out.

City dwellers access Medicare-subsidised mental health services about four times as often as their cousins in inner-regional areas.

Specialists like psychologists and psychiatrists are few and far between, and not just because the population's more sparse.

There are four times as many psychiatrists per city dweller than out in the bush.

'This crisis is different and it's important we learn what COVID-19's impact is on our rural community.'

Distressed, not ill

Rural mental health expert Dr Alison Kennedy, Deakin University, said Australians living outside the major cities have different causes of stress and different ways of coping.

Many are not mentally ill but in potentially damaging psychological distress, nonetheless.

"We can't have that narrow focus on people who have only been diagnosed with a mental illness - we do have to look much more broadly than that," Dr Kennedy said.

"In the past, suicide is always associated with mental illness.

"It's really becoming apparent now that mental illness is just one factor in a whole range of complex factors."

She says it's time Australia looked at the situations farmers find themselves in that cause dangerously high stress levels and work on practical solutions.

Practical plan

Dr Kennedy hopes a new project called The Primary Producer Knowledge Network that was developed by the National Centre for Farmer Health (NCFH) would deliver practical plans for farmers.

"People in primary production are, on the whole, incredibly practical people," she said.

"Mental health is an emotional topic but there are also a whole range of practical things we can do to support our mental health and to prevent ourselves from the risk of mental injury."

The network's shape is not fully formed, with the design being developed in conjunction with farmers, Dr Kennedy said, and would offer strategies and resources delivered through a website, interactive capacity-building program and social media platforms.

The focus would be on how workplaces could prevent distress.

"This project is quite unique," Dr Kennedy said.

"A lot of the work at an individual level has been looking more at health promotion.

Deakin University mental health expert Dr Alison Kennedy.

"We're looking at it much more from a prevention kind of focus.

"This project is being funded by WorkSafe's WorkWell Mental Health Improvement Fund and safety is very prevention focused.

"Rather than talking about health promotion, we're looking at the step before that, getting systems and procedures to prevent people from experiencing stress and for that to develop into risks to mental health."

An example could be as simple as finding ways to manage breaks from farming.

"We think of some of these sectors as being kind of 365 days a year roles where it's really hard to take a break," Dr Kennedy said.

"We know that being able to take time away from a farming business is really valuable to people's mental wellbeing and their ability to take stock and have a fresh perspective on things.

"There are practical things that we may be able to do ... to help people put some sort of separation between their work and their home life to create some space for themselves."

The NCFH was calling for expressions of interest from primary producers and other stakeholders to engage in the design, with applications opening this week.

Covid-Rural

Meanwhile, Monash University School of Rural Health is encouraging rural Australians to participate in a national survey of mental health impacts and the development of resilience.

"While there is ample evidence that stress and anxiety levels increase after disasters - such as bushfires, floods and drought - the impact of pandemics is more often seen as affecting those in cities than those in the bush," Monash's Dr Keith Sutton said.

The impact of the coronavirus could be different in rural, regional and remote areas than in cities.

"People in metropolitan areas may think that pandemics like COVID-19 impact less on those in rural areas because we, by definition almost, live a more isolated life," Dr Sutton said.

"But we are also being impacted by the closure of our workplaces, gyms, churches and schools."

He said rural Australia should use the pandemic crisis to "learn what we can about resilience".

"How we - and surely those of us in the bush can teach those in metro Australia - cope with disaster.

"How we take the hits and then regroup and rebuild - but this isn't a bushfire or a flood.

"We have learnt how to, in many ways, deal with those.

"This crisis is different and it's important we learn what COVID-19's impact is on our rural community."

You can access the survey at www.maprc.org.au/covid19-mental-health

GETTING HELP

Virtual psychologist: Phone 24 hours/seven days: 0404 032 249

BeyondBlue: Phone 24 hours/seven days: 1300 224 636

Lifeline: Phone 24 hours/seven days: 13 11 14. D

Fresh approach leads to big rewards

Key points

- ✔ Succession planning needs time and patience
- ✔ Five farming peers form a dairy co-operative
- ✔ A collaborative team environment helps staff to feel valued.

By **Corinna Boldiston**

LIKE dairy farming, leadership is not something Stuart Crosthwaite considered his calling, until looking through the lens of adulthood.

The shy kid from Kergunyah South in north-east Victoria's Kiewa Valley who "never put up his hand in class" finished Year 12 with "no intention" of becoming a fifth-generation farmer.

"I thought, 'I don't want to be a dairy farmer; it's the last thing I'll do. There's no future in it'," Stuart said.

Stuart, 46, now runs a thriving dairy operation, inspires and mentors a future generation of farmers, is founding chair of dairy co-operative Mountain Milk, and is participating in the 15-month Australian Rural Leadership Program (ARLP), sponsored by Gardiner Dairy Foundation.

It's a far cry from the trajectory Stuart imagined when he left home for the University of Melbourne with his sights on engineering.

Struggling in physics, he switched to agricultural science, which led to a post-graduate Diploma in Science at Massey University in New Zealand.

On his return to Australia, Stuart worked as a field officer for Murray Goulburn in western Victoria where he says he saw the "best" and "worst" examples of farming.

Immersing himself in investment analyses of dairy businesses while studying in New Zealand, and then seeing the varying capabilities of farmers as a field officer, Stuart thought a lot about the bleak view of the industry he harboured as a youngster.

"All of a sudden I could appreciate there were good farmers and there were not-so-good farmers – and there was a huge gap in between," Stuart said.

"It unearthed [for me] the potential of dairy farming."

Stuart Crosthwaite, Hermitage Dairy, NE Victoria: 'A lot of people think you are born a leader, but I have learned leadership can be taught.'

He returned home in his mid-twenties and was "like a bull at a gate wanting to implement everything" he had learned but was frustrated by his inability to "influence the spend" on the farm.

"Being the next generation wanting to come through, I think I am like many others who've experienced family tensions when succession planning issues arise," Stuart said.

While he acknowledged there was no capital for big projects, Stuart wanted to improve existing infrastructure and build the farm's future instead of "just ticking along doing average Victorian production".

"I had all these great ideas - and suddenly, I hit a brick wall.

"You had the older generation wanting to slow down and the younger generation really wanting to have a crack; it just became really frustrating."

Navigating succession planning

Stuart decided he couldn't "wait for another five or 10 years and kiss goodbye a career in consulting", so he left the farm with wife Sarah for a job at Bega Cheese.

"Disappointed in each other", a tense year passed before meeting with his parents.

But the conversation turned out to be frank and fruitful.

A basic lease arrangement was negotiated, and Stuart and Sarah moved back to the farm where they are now raising their children Indi, 14, and Otto, 12.

After five years the farm had doubled its production but before an investment could be made in replacing the 100-year-old dairy, succession planning began in earnest.

"It [succession planning] is the Achilles heel of agriculture in Australia; they're difficult conversations to start within a family because nobody wants to rock the boat," Stuart said.

Now 15 years later, Stuart's parents have enjoyed extensive travel in retirement, and their successor has tripled farm production – thanks to significant investment in the dairy, irrigation and technology – and built a new home on the property.

"We milk between 450 to 500 cows and have three full-time staff; it allows us to have a roster and we schedule holidays and days off," Stuart said. "You can manage a roster with a bit more scale [in the business], which the investment has allowed us to do.

"Dad still comes to the farm and helps out with the breeding and bits here and there; he's got the freedom to do that, but he's not tied to anything."

Nurturing leadership

While paving a new direction for his farm, Stuart inevitably landed on various committees, including Alpine Valleys Dairy Incorporated, which established a successful strategy to increase the region's milk production.

"I'm proud to say the north-east has probably grown our production by 20 to 25 per cent in the past decade," Stuart said.

Unhappy with the ailing Murray Goulburn, Stuart and five farming peers formed the north-east Victorian dairy co-operative Mountain Milk two years ago.

The co-operative, chaired by Stuart, has grown to eight members with a vision to produce its own bottled milk, while also increasing its collective negotiating strength with processors.

It currently has a three-year contract with Freedom Foods and is in negotiations with other processors.

With leadership experience and responsibilities growing on his résumé, Stuart says his natural style was a "doer", leading from the front and directing people with "black and white instructions".

But the ARLP has been transformative: Stuart – and the people around him – now benefit from a more inclusive style of leadership, which Stuart hopes will ripple through his business and the wider dairy industry.

"I have learned a lot about myself and how my style affects the people around me," he said. "I have a better understanding of how connecting with the people around you can get a better outcome for the team."

Learning self-awareness has also helped Stuart appreciate the need to manage his own workload and "help others carry some of the load", in turn, fostering their leadership capacity.

"My leadership style is now more of a facilitator than a footy captain," he said.

"I sat down with my staff and we developed our own core set of values. They said, 'We want more teamwork, communication and responsibility'."

Value in sharing the load

Stuart's three staff now each have an area of responsibility – assistant herd manager, assistant feed manager and assistant maintenance manager.

They respect each other's role and only seek Stuart's advice when needed in their own area of management.

The team has consistent communication, each contributing to a Google sheet that is live across their phones, displaying jobs lists, rosters and other information.

They also communicate via WhatsApp and have monthly team meetings.

Stuart diarises an annual performance and salary review with each staff member and supports their participation in industry courses.

Herd manager Angela Dunstone, 32, is rapt to have more responsibility and training opportunities in her field of interest.

"Each of us knows what jobs we have to do. If anyone has a question about the cows or animal health, they come to me. It gives me a sense of ownership in that area and if I need advice, I can ask Stuart," Angela said.

"This makes me feel valuable to his business; I'm not just a number or just an employee; I matter."

Feeling valued and able to learn from Stuart in a collaborative team environment has also been pivotal to Angela staying in the dairy industry, after a negative experience with her previous employer.

Angela did not grow up on a farm, and when she switched from nursing to her first farm job, it was an unhappy experience because she was "thrown in the deep end and not taught anything".

But under Stuart's mentorship, Angela is excited about having a long, rewarding career in the dairy industry.

"I value that my staff can see opportunities for improvements and I really want them to have input into that," Stuart said.

Transformative experience

Stuart is grateful for Gardiner Dairy Foundation's sponsorship of his current participation in the ALRP, which includes immersive experiences in the remote Kimberley region, regional Australia, Perth, Canberra and Vietnam.

The iconic program takes more than 30 remote, rural and regional leaders from diverse industries throughout Australia to develop their capabilities.

While currently interrupted by COVID-19 restrictions, the experiential learning program so far has had a profound impact on Stuart.

"A lot of people think you are born a leader, but I have learned leadership can be taught," he said. "I've learned to be more aware of the people around me and more aware of myself and my impact on them."

A successful succession plan and three generations on the Crosthwaite's dairy farm: Sarah, Pam, Donald, Otto, Indi and Stuart.

'Change takes time and you need to build a snowball and have someone to keep pushing it, otherwise it will lose momentum and die.'

Stuart said the program had shown the value in networking to achieve positive outcomes and was teaching him the "three A's of leadership – awareness, adaptability and authenticity".

With increased self-awareness and perspective on other people's values, Stuart feels better equipped to motivate and nurture his dairy industry peers.

"You learn from everyone in the ARLP cohort. It's a really supportive atmosphere," he said.

"I've learnt it's okay to be a little bit vulnerable and admit you are wrong and ask for advice."

With his farm "humming along and co-ordinating itself", Stuart's new leadership style has allowed him to be "more present" with family and friends, while also sharing his passion for the industry.

He believes the ripple effect of role-modelling and influencing more leadership within all tiers of farm life is an enduring return on investment.

"Change takes time and you need to build a snowball and have someone to keep pushing it, otherwise it will lose momentum and die.

"There needs to be a really long-term strategy in agriculture to push that snowball because it's about bringing the next generation in to be innovative and take things to the next level."

Co-op goes into voluntary administration

By **Marian Macdonald**

A CO-OPERATIVE that lays claim to producing Australia's largest pool of certified organic has gone into voluntary administration.

Organic Dairy Farmers of Australia Limited (ODFA) produces the True Organic brand of milk, butter and cream.

It also supplies milk to FiveAM yoghurt, Pure Organic milk and Lemnos cheese.

Worrells Solvency and Forensic Accountants were appointed voluntary administrators on May 15.

Established in 2002 as a co-operative, ODFA is owned by more than 40 farmers who supply fresh, organic milk from Victoria, and Tasmania.

Worrells partner Scott Anderson said the co-op had been participating in a joint venture with Corio Bay Dairy Group to build a milk dryer and had recruited extra members to boost milk supply.

He said the construction and commissioning had been delayed, meaning the freshly-acquired milk had not been able to be processed through the new facility, leaving it with surplus milk.

That, coupled with the impact of the coronavirus on the Chinese market had led to ODFA's move into voluntary administration.

"Unfortunately, I will absolutely recognise that the members and farmers are owed a significant sum in relation to the May milk cheques for the April milk," Mr Anderson said.

"There is a bank facility that far exceeds the amount which is owed to farmers, and we're working as best we can to continue to trade to give the members some certainty going forward whilst we're looking at all options to secure the viability of the co-op and its operating assets."

Mr Anderson said all milk supplied to the co-op during the voluntary administration period would be paid for.

"I guess the key issue that everyone wants addressed is what the status is of the milk supplied in the immediate period up to the appointment of the administrators," he said.

"Ideally, we'd be in a position where I could give more members absolute certainty as to that but that's something we're working towards at the moment with the other stakeholders who are involved and the financial circumstances."

The farmer co-operative behind the True Organic label has gone into voluntary administration.

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LALLEMAND

New developments for the new season

By **David Nation**
Managing director
Dairy Australia

Key points

- ✔ Milk production recovered in second half of last season and set to increase this year
- ✔ Information resources developed to assist farmers with new milk supply agreements
- ✔ Virtual discussion groups and online learning provided during COVID-19 restrictions.

A NEW season is under way and for many dairy farmers the settings are an improvement on last year, although the announcement of opening prices on June 1 provided an indication of the uncertainty in dairy markets from COVID-19.

Restrictions associated with the virus are starting to ease and, at the time of writing, dairy has successfully navigated through the challenges presented at the outset. I'd like to pay tribute to the collaboration shown across the industry during this crisis. Dairy is known for its co-operative spirit and strong resolve - my observation from working as part of dairy's National Response Group over past months is that these characteristics are still in place.

COVID-19 has undoubtedly caused supply and demand imbalances in some international markets that could ultimately impact pricing here. This situation continues to evolve and our senior industry analyst, Sofia Omstedt, gives her assessment on page 81.

What is clear, however, is that farmers made the most of improved conditions in many regions in the second half of last season, with national milk production likely to finish only 1 to 3 per cent down at around 8.5 to 8.7 billion litres. After a difficult start to the season for most, this was a terrific performance. Our forecast for this season is that production could increase by a similar margin.

Dairy industry ambassador and Aussie rules legend Jonathan Brown.

'Farmers made the most of improved conditions in many regions in the second half of last season.'

New milk supply agreements which came into effect on June 1 as part of the Dairy Code of Conduct will assist farm planning and budgeting. Dairy Australia worked with Australian Dairy Farmers and Australian Dairy Products Federation to develop a number of information resources to help farmers adjust to these changes and you can read about these on page 37.

In this issue we also have articles on other new developments in the coming season. This includes a look at some of our activities focused on attracting people to the industry and building skills in the workforce.

The challenge of accessing skilled labour is not unique to dairy, but it was a common theme voiced by farmers during consultation meetings for the Australian Dairy Plan. We welcome the Victorian Government's support of a training program for new dairy workers announced in May. Although initially designed to help dairy manage any labour impacts from COVID-19 and assist those who have lost their jobs, this program will have a long-term benefit for the industry.

It's not just about attracting newcomers to the industry and giving them the skills to hit the ground running on farms. You can read about a DairyBio/DairyFeedbase mentoring program that is helping to keep talented PhD research students in the industry.

We also have a feature on some of our consumer marketing campaigns, like the World Milk Day celebration. I'm pleased that AFL great Jonathan Brown is able to give his voice to these initiatives as our new industry ambassador. His first-hand experience on family farms is really important to make a connection with consumers and convey the importance of the industry to regional communities. As a top flight athlete he's also well versed in the health benefits of our products.

We were delighted that more than 60 dairy farming families participated in the creation of our 'Here for You' campaign, which was featured on TV and social media in May and reinforced the value of Australian dairy farmers in providing fresh, nutritious dairy to consumers each day.

You can read an article on new video case studies involving our Repro Right program. The practical tips on enhancing fertility in the herd can really help to make a difference. Our industry analyst Sam Leishman also provides an outlook for farm input costs in coming months. Don't forget to register to receive his regular reports by email, which can be arranged via our website.

While COVID-19 restrictions have disrupted our ability to provide in person extension activities, I'm delighted that we've been able to roll-out virtual discussion groups and online learning via our Enlight platform. This means that programs designed to help you with your seasonal and long-term planning like Our Farm, Our Plan will be available through the internet.

I'm looking forward to comprehensive coverage of the launch of the Australian Dairy Plan in the next issue. Until then, I hope you and your families continue to stay safe. D

Guide to new agreements and code

Key points

- ✔ Guide to make milk contract negotiations easier
- ✔ By January 2021 all agreements must be code-compliant
- ✔ The guide is made up of three resources farmers can refer to as they negotiate new contracts.

A FARMER'S Guide to Milk Supply Agreements and the Dairy Industry Code of Conduct is now available to suppliers and processors to make contract negotiations easier and more transparent.

Developed by Dairy Australia, with contributions from industry partners including Australian Dairy Farmers and the Australian Dairy Products Federation, the resource was launched on June 1 to coincide with processors' milk price announcements and the publication of standard form milk supply agreements.

Dairy Australia's manager of trade and industry strategy, Charles McElhone, says this is a significant time for the industry.

"For the first time, farmers will be looking at milk supply agreements that come under the Dairy Industry Code of Conduct. Contracts might look different, some of the terminology will be different, there are new terms that have to be incorporated into agreements," he said.

"For us, it's a priority that farmers have access to information that makes it easier to get their head around some of these changes."

The guide, which includes milk supply agreement (MSA) checklists and talking points for contract discussions, can be used by farmers to work through important legal and operational considerations for their business during contract negotiations.

"We've developed these resources as a practical guide for farmers to consider how a milk supply agreement aligns with their business, whether it be to their supply curve, components or their longer-term business plans," Mr McElhone said.

The work is funded and underpinned by the federal government's election commitment to help farmers understand what the Dairy Industry Code of Conduct means for them, with all milk supply agreements that are created, varied or renewed this year being subject to the code.

A Farmer's Guide to Milk Supply Agreements and the Dairy Industry Code of Conduct resources were released on June 1.

By January 2021 all milk supply agreements, no matter when they were entered into, must be code-compliant.

The guide is made up of three resources farmers can refer to as they negotiate new contracts.

These are:

1 Milk Supply Agreement Checklist 1

Under the code, there are specific requirements for all contracts including terms around timelines, milk quality requirements, milk testing procedures, pricing and payments, and roles of the supplier and processor. This step-by-step checklist outlines an objective list of terms that must be incorporated in a milk supply agreement to be compliant. It is designed to provide clarity on the terms of the code, new terminology in milk supply agreements and suppliers' rights and responsibilities.

2 Milk Supply Agreement Checklist 2

This resource builds on to checklist 1 with additional considerations for milk supply agreements beyond the terms of the code, including ownership and transport arrangements, payment system, insurance, processes relating to milk defects, guarantees and indemnities, termination clauses and contract variations. This step-by-step checklist is designed to give farmers confidence about putting an arrangement in place that best suits their business.

3 Talking points for contract discussions

To be used in conjunction with checklists one and two, this resource incorporates a list of talking points and questions farmers may want to use as a prompt when negotiating contracts with processors. The talking points help farmers work systematically through different options and make the right choice for their business. This resource can help to ensure suppliers and processors are fully informed about the agreement and aligned on contract terms and expectations.

The Farmer's Guide to Milk Supply Agreements and the Dairy Industry Code of Conduct is the first step in a broader project to drive improved profit margins in dairy businesses in relation to milk price, with business tools and extension programs to come.

"We are working closely with farmers, service providers, our regional teams and partner organisations, to develop products that farmers can pick up easily and use in their planning and decision making around contracts," he said.

The Farmer's Guide to Milk Supply Agreements and the Dairy Industry Code of Conduct builds on the ACCC's farmer factsheet and can be effectively used in conjunction with ADF's contract template and ADPF's Sample Dairy Code compliant MSA terms.

Developing the dairy workforce

Key points

- ✔ More than 4000 people participated in the Getting into Genes program last year
- ✔ Students are developing skills, capability and professional networks for farm management
- ✔ Some popular extension programs are now being offered remotely.

Marcus Oldham students visit the Jelbart dairy farm in Gippsland.

THE Australian dairy workforce is over 46,000 people strong, with career opportunities growing across the supply chain.

Investment in the next generation of the dairy workforce is a high priority for the industry.

This was made clear during consultations for the Australian Dairy Plan last year, with the second commitment of the plan being to attract and support new entrants, and to build industry capacity.

Dairy Australia's managing director, David Nation, says that Dairy Australia and industry partners are looking for opportunities to develop and pilot new initiatives and to update existing initiatives to grow the industry's future workforce.

"One of the messages that came out strongly during Dairy Plan consultations, and continues to come up as we talk about the future of our industry, is how we support the next generation of dairy farmers," he said.

"As an industry, we have a fantastic workforce development program and a strong Young Dairy Network, but we need to look at where the gaps are and how we can start to address them.

"We're talking to the dairy community, education providers, industry partners, and government about opportunities to work together to attract people to dairy, to enhance the pathways into the industry, to upskill our existing workforce and to provide career opportunities for our farmers."

These initiatives are being delivered nationally through schools, universities, training organisations, regional extension programs and partner organisations.

Get into Genes

Secondary school students studying science are getting involved in industry workshops through DairyBio's Getting into Genes program.

The program, hosted at AgriBio, takes participants through hands-on activities to demonstrate key concepts within real-life examples of bioscience research and its application to agriculture.

Get into Genes is focused on the delivery of inspiring, meaningful opportunities for school students and community groups.

Co-director of DairyBio and director of major innovation projects for Dairy Australia, Kevin Argyle, says it is the practical experience that makes the Get into Genes program so unique and so successful.

"The program allows students to come into our research facility and see the science that they find exciting applied to agriculture," he said.

"This exposure to world leading research facilities allows the students to experience what most people only get to read about in textbooks - things like DNA extraction, DNA sequencing and gel electrophoresis plus selective breeding using phenotype and genotype data for both plants and animals."

More than 4000 people, including students and teachers, participated in the program last year, which addresses national objectives for a scientifically literate community and a strong, sustainable science and agriculture workforce.

"Nationally it is recognised that we need to encourage school students to pursue careers in STEM and DairyBio is perfectly placed to showcase the cutting edge application of science, technology, engineering and maths to agriculture, and inspire students into considering agricultural research careers," Mr Argyle said.

Get into Genes is a part of the 'Bioscience and Community' initiative, a result of over 10 years' collaboration with university, research and industry partners.

DairyBio is a co-investor in this initiative funded by Agriculture Victoria.

Find out more about Get into Genes at getintogenes.com.au

Dairy Learning Plan program

Dairy Australia's Dairy Learning Plan scholarship program is giving undergraduate students with a career interest in dairy farming a unique opportunity to develop skills, capability and professional networks for farm management.

The program, run in partnership with Marcus Oldham College over three years, connects participants

'We all love working in the paddock, but creating that relationship between the paddock and the office to grow is what we want in our career progression.'

with the dairy community through involvement in industry programs and on-farm experience.

For Jim Conn, a participant in the Dairy Learning Plan program commencing last year, the course content complements his work on-farm in north-west Tasmania.

"We all love working in the paddock, but creating that relationship between the paddock and the office to grow is what we want in our career progression," Mr Conn said.

"What works for me is setting goals and planning ways to achieve these goals. Comparing my progress against benchmarks is helpful to indicate if I am on track, and where more focus is required."

Learning from the sector's experts, students complete a range of business and agriculture subjects, developing their management skills and critical thinking to set themselves up for farm management.

"Young people in my situation love to be involved in the business and the planning of the business. We are proactive about improvement and profitability to achieve maximum return. In my opinion, improving and building is the best form of satisfaction in my career," Mr Conn said.

Dairy Australia is providing support for three students to commence the program in 2021.

Applications are now open through Marcus Oldham, marcusoldham.vic.edu.au

Dairy Farm Induction Program

Dairy Australia is currently developing a Dairy Farm Induction Program, with support from the Victorian government as part of the Agriculture Workforce Plan to ensure the state's agriculture sector has the workforce it needs to continue operating.

The program will help to rapidly upskill new workers, make training more accessible and support farmers with inducting new employees.

The initiative will build on existing industry-specific resources around workforce recruitment, staff management and farm safety available to employers from The People in Dairy website.

New online extension programs

Some of the industry's most popular extension programs are now being offered remotely, creating new opportunities for dairy farmers, service providers and industry experts across Australia to connect and share information from their farm.

In development since last year, online extension programs were quickly taken up due to COVID-19 social distancing requirements, with discussion groups, Focus Farms, Young Dairy Network activities, seasonal and business updates and training programs all being moved to web-based platforms.

Dairy Australia's lead in extension delivery, Sarah Thompson, said the reception to the online programs had been extremely positive.

"Farmers across all dairying regions have connected into programs, sessions and discussion group meetings that our regions are running," she said.

"They are particularly liking the convenience of being able to attend a session or meeting without having to leave their farm or commit additional time to travelling to and from sessions."

Programs are being delivered on virtual conferencing application, Zoom, alongside Dairy Australia's online learning platform, Enlight, which hosts resources, instructive videos, demonstrations and discussion forums.

Remote training programs are also giving employers new tools to induct and upskill staff.

One such program is Milking and Mastitis Management, which includes the fundamentals of the industry's Cups On Cups Off (CoCo) course – bringing the cows in, putting cups on, taking cups off, post-milking teat disinfection and detecting clinical mastitis.

Participants can complete the program through online modules and practise in the dairy with an on-farm coach.

Get into Genes is focused on the delivery of inspiring, meaningful opportunities for school students and community groups.

Expressions of Interest for Milking and Mastitis Management are now open through regional extension teams, for dairy farmers keen to bring new staff up to speed on essential procedures in the dairy.

Other farm business and animal management courses will be launching soon.

To find out more visit dairyaustralia.com.au/c19extension

Dairy Progression Framework

Dairy farmers in NSW are contributing to a new project aimed at improving engagement and retention of staff in dairy farm businesses through a new extension offering in on-farm leadership.

The Dairy Progression Framework project is supported by the NSW government's Dairy Industry Fund and managed by DairyNSW with support from Murray Dairy, Subtropical Dairy and Dairy Australia.

Initial stages of the project have identified gaps in current leadership training and development, where focus is predominantly being placed on industry and advocacy leaders and missing what's considered 'on-farm leadership'.

Existing research with employers and employees has helped to identify leadership traits considered important to employee satisfaction and retention.

Based on this research, an opportunity exists to develop a leadership program for employers and managers looking to enhance this skillset.

The development of the program is currently underway, to be launched to NSW dairy farmers in early 2021. D

For more information, contact DairyNSW.

Keeping research talent in dairy

Key points

- ✔ DairyBio and DairyFeedbase PhD program aims to provide early career researchers
- ✔ Mentoring is a mutually beneficial relationship for a career experienced person and a less experienced person
- ✔ The next intake of the mentoring program will commence in November.

A KEY challenge of agricultural research is how to recruit and retain talented people – which is vitally important to drive the productivity gains that are necessary to keep the Australian dairy industry competitive and profitable.

DairyBio and DairyFeedbase collaborative research projects are working together to deliver for Australian dairy farmers a more productive, resilient and nutritious feedbase and greater cow health, fertility, efficiency and longevity outcomes, and the right tools to manage both.

This step-change innovation will lead to higher farm income, improved sustainability and improved animal welfare - all vital for the vibrant future of the dairy industry.

"The brightest part of our innovation pipeline are the talented people working on these projects – DairyBio and DairyFeedbase are fortunate to have world-renowned Agriculture Victoria researchers as our program and project leaders," said co-director of DairyFeedbase and DairyBio and director of major innovation projects for Dairy Australia Kevin Argyle.

"We know that to keep at the cutting edge of innovation we need to attract, nurture and retain the next generation of leading dairy researchers so we developed the PhD program."

The DairyBio and DairyFeedbase PhD program aims to provide early career researchers - people who have usually graduated from Master studies and are looking to pursue PhD candidature - with meaningful research projects complemented by professional development opportunities.

"The program offers the opportunity to develop strong connections with the dairy industry and supply chain

'We know that to keep at the cutting edge of innovation we need to attract, nurture and retain the next generation of leading dairy researchers so we developed the PhD program.'

to maintain a pipeline of research talent into the agricultural industry and encourages that talent to stay," Mr Argyle said.

"As part of their professional development we run an industry mentoring program where we pair each PhD student with an industry mentor who is an experienced industry professional within the dairy industry."

Mentoring is a mutually beneficial relationship which involves a career experienced person helping a less experienced person to identify and achieve their career goals.

Career mentoring can provide some of the most sought-after attributes that employers look for as the mentee gains industry awareness and first-hand knowledge of the challenges of life in the workforce.

While the mentor gains a chance to give back to the industry and for self and career reflection.

"The DairyBio PhD program allows participants to go from the purely academic research structure of the university to engagement with stakeholders who want to see the research being applied in the real world to solve real problems," said past mentee Dr Mijail Karpyn said – who now works in a farm profit and extension role at Dairy Australia.

"The DairyBio program opened the door for me to explore the different job opportunities that exist for a PhD graduate. I have found my calling in life in extension and science communication."

Past mentors have included dairy farmers, executive officers, chief financial officers, directors of dairy

The 2016 DairyBio and DairyFeedbase Mentor/Mentee cohort at AgriBio.

organisations and companies, and are matched according to the developmental focus of the mentee and their current career direction.

"I really wanted to help my mentees feel connected to the people and farms that would benefit from their career focus. I made sure my mentees visited my farm to see where the application of their research would be of benefit," said 2016 and 2018 mentor Bessiebelle dairy farmer and Gardiner Dairy Foundation director Naomi Pye.

"I thoroughly enjoyed being involved in the mentor program. Not only did I meet the next cohort of dairy science researchers, I also met an enthusiastic group of established dairy leaders, from all areas of the industry."

The next intake of the mentoring program will commence in November 2020 – subject to COVID-19 restrictions.

For more information about becoming a mentor: www.dairybio.com.au/phdprogram

DairyBio and DairyFeedbase currently have 27 PhD students - 21 at DairyBio and 6 at DairyFeedbase - and will be recruiting for additional PhD candidates from August 2020.

If you know a talented, early career researcher who is passionate about the dairy industry tell them to keep an eye out for future positions on https://www.seek.com.au/PHD-jobs

DairyBio and DairyFeedbase are the leading bioscience and applied research programs in the dairy industry and are joint ventures of Dairy Australia, Agriculture Victoria and the Gardiner Dairy Foundation.

Favourable outlook for input costs

Key points

- ✔ Pandemic increasing volatility in dairy markets
- ✔ Despite general improvements, conditions remain varied across the country
- ✔ Improved seasonal conditions boost farmer confidence.

GROWING international headwinds following the outbreak of COVID-19, have occupied most headlines recently.

Ongoing challenges created by the spread of the pandemic is increasing volatility in dairy markets.

Meanwhile, seasonal conditions in Australia have improved and are providing a more favourable outlook for the new production season.

Following consecutive years of tight supply, compounded by drought induced demand, both hay and grain prices have begun to ease.

Autumn rainfall across key production regions improved feed availability and the outlook for the purchased feed market.

Hay prices have remained steady over the past two months as pasture availability reduced demand and the market has been relatively inactive.

Whilst cereal hay prices are still trading above five-year averages in most regions, they have eased considerably for the balance of the country.

In nearly all regions, prices are trading at a 20 to 50 per cent discount compared to the same time last year.

Despite general improvements, conditions remain varied across the country.

A dry start to the year in south-west Western Australia and limited fodder availability in Tasmania have kept prices elevated. In south-west WA, cereal hay is trading at comparable prices to last year but remains 40pc above the five-year average.

In Tasmania, prices are significantly higher, up 100pc compared with May 2019, however only 29pc above the long-term average.

The prospect for Australia's winter crop is also varied across the country.

WA missed out on substantial (early) rain to support planting. Rainfall arriving late in May has improved the outlook, although soil moisture remains low.

Last season, WA contributed to 40pc of Australia's total production.

Queensland received some rainfall throughout summer; however, the region remains dry and requires further rain events for crop development.

In comparison, widespread rain across southeastern states increased soil moisture and provided the most favourable start to winter cropping since the exceptional crop in 2016-17.

Australia's recovery from last season's drought induced feed deficit will continue to depend on improved production in WA and northern Australia, alongside current forecasts in southeastern states.

Overall, Australia's winter crop production is expected to increase year-on-year.

Improved new season crop forecasts combined with softening offshore markets, have started to see local grain prices drop.

Recent trade news involving tariffs on Australian barley exports caused an immediate market response; with a sharp withdrawal from buyers effectively paused local barley markets.

Since then, barley prices have contracted sharply, and the downward pressure is spilling across to the wheat market.

The import tax is expected to place a significant amount of pressure on barley prices for the foreseeable future, particularly for South Australia and WA which are heavily export focused.

Despite recent concerns about the condition of crops in Europe and the Black Sea region, global wheat stocks are estimated to increase in 2020-21.

Annual improvements to production in Australia, Russia, Canada and Argentina are key drivers of this move.

If realised, increases in the global supply of grain is likely to keep downward pressure on both international and domestic prices.

Goulburn/Murray Valley feed pricing.

The water market has also taken a bearish direction throughout the start of the year.

Allocation prices eased in both southern NSW and northern Victoria for the fifth consecutive month in May.

Prices have now halved since the start of the year as a result of reduced demand.

Locally, improved seasonal conditions and expectations of lower input costs have boosted confidence among farmers.

According to data from the National Dairy Farmer Survey conducted in February, 67pc of farmers are feeling positive about their individual farm business, up 22pc from last year.

Improved seasonal conditions and more manageable input costs were among the key drivers listed in the survey.

This demonstrates a strong correlation between the level of reliance on purchased feed and business confidence.

During a time when global dairy markets have been increasingly volatile, the Australian dairy industry is faring better.

Fewer farmers are anticipating challenges related to inputs, climate or irrigation for the next six months, which has helped lift confidence.

Sustained improvement to input costs will be crucial to alleviate additional pressures on-farm incomes in a year when global markets are increasingly volatile.

To receive Dairy Australia's Production Input Monitor and Hay and Grain reports by email, please visit https://www.dairyaustralia.com.au/about-dairy-australia/about-the-organisation/subscribe

Fertility videos show improvements

Key points

- ✔ Use of split, year-round and batch calving now more common
- ✔ Five-day course focuses on improving fertility
- ✔ Brothers realise high fertility was the main driver of profitability in the business.

A NEW series of on-farm video case studies from Dairy Australia shines a light on the importance of fertility on Australian dairy farms.

Seven new video case studies from farms in NSW and Victoria, investigate how farmers with medium to large herd sizes and varying calving patterns have managed to improve fertility on their farm after implementing knowledge from Dairy Australia's InCalf and InCharge programs, and utilising the network of Dairy Australia Repro Right advisors.

Dairy Australia's animal health and fertility lead, Stephanie Bullen, said historically most southern Australian dairy farmers calved the herd in one compact calving period at the same time each year, to maximise intake of homegrown pasture by milking cows.

'Fertility is important to me for many reasons, one of the most important being that it drives my profitability.'

However, the dairy industry has changed dramatically over the past 20 years and the use of split, year-round and batch calving are now more common but fertility remains an important factor in successfully generating profit across these diverse production systems.

"Regardless of your calving system, better fertility means higher average milk production due to fewer low-producing, late-lactation cows; less cows are culled for fertility issues and there is more opportunity to focus on addressing other issues such as low production or mastitis," Dr Bullen said.

"More heifer replacements are generated and there is greater flexibility to capitalise on good seasons or high milk prices or to recover after destocking.

"These new videos address what aspects of fertility some farmers consider most critical, the areas they focus on and what they have learned from implementing information and advice derived from Dairy Australia's extension programs.

"Many factors influence fertility and it can be challenging for farmers to do everything they need to do at the right time to achieve good results – yet these new farmer case studies show what is possible when opportunities for improvement are identified and farmers take action, highlighting the influence herd fertility has on herd profitability and sustainability."

The video case studies are available to watch via Dairy Australia's website."

Two case studies are available at dairyaustralia.com.au/farm/animal-management/fertility

Simon Portwine, Bamawm, northern Victoria, split calving pattern

Northern Victorian farmer Simon Portwine has focused on improving

Farmer Simon Portwine in a scene from a new Dairy Australia video case study series focusing on fertility. Enhancing fertility in the herd can really help to make a difference.

fertility as it's a key profit-driver on his 330 cow dairy farm.

Selecting for fertility, ensuring a rising plane of energy for cows at joining and using collars for automatic heat detection are strategies Simon has put in place after learning more about fertility through attending a Dairy Australia InCharge course.

"Fertility is important to me for many reasons, one of the most important being that it drives my profitability," Mr Portwine said.

"When your cow first calves in, that's when they are at their peak and most efficient, so we get more milk for the amount of feed that we put into them. We also get more cow numbers coming through, so we don't have to worry about replacements."

Mr Portwine said it was selling a number of empty cows that prompted his interest in improving fertility and enrolling in the InCharge course with Dairy Australia.

The five-day course, hosted on-farm, takes farmers through everything they need to consider when building an effective herd reproductive management plan and improving fertility.

Two days are practical and three days are hands-on, allowing farmers to complete the workshop with a herd fertility plan.

"We changed a number of things. We changed how we fed the cows coming into calving. If I get that right, the cow calves easier and if she starts milking and she hasn't had any problems then she usually cycles and gets back in calf easier," he said.

"I also didn't think I was feeding the calves well enough to get what I wanted out of them as well as get them in calf. So now I make sure they are on a rising plane of energy when we get to joining."

Mr Portwine also began to use a collar system on the cows to help with joining.

"The collars made a big difference just on the timing of the joining and picking up cows that had a very short heat," he said.

The result of these new changes means there are now more cows in calf on the farm than 12-months ago and the operation has reached a herd level that is sustainable.

"Looking ahead we'll select the top 20 to 25 per cent of the herd and join them to sexed semen and the bottom 25pc will probably get a beef straw," Mr Portwine said.

Northern Victorian farmer, Simon Portwine.

Mr Portwine said planning was very important when it came to fertility and getting the right information to show you where to improve.

"If you don't have anything to benchmark against you don't know where you've been and you can't really gauge where you are going."

Phil Tate, Calderwood NSW all year-round calving

Fertility has become the number one focus on Phil and Craig Tate's 550 cow dairy farm in the Illawarra region on the NSW south coast.

Mr Phil Tate said after taking the farm over from their father the brothers realised that having high fertility and getting cows in calf as quickly as possible was the main driver of profitability in the business, Mr Tate said.

Since then their focus has really been based on some key fertility indicators and started with some difficult culling decisions.

"Our 100 day in calf rate would have been below 30pc and we've now brought it up to 45pc with the 80-day submission rate now at 84pc. Presently our calving interval is 12 months and 18 days," Mr Tate said.

Another very important key indicator for the farm is the days in milk with the farm currently sitting at 175 days - previously around 240 days when they took over.

"Getting cows in calf early and maintaining average days in milk down below 175 days is really critical so that the more fresh cows you are milking, the more milk you are getting out of them, and the more profitable your business becomes," Mr Tate said.

'Getting cows in calf early and maintaining average days in milk down below 175 days is really critical so that the more fresh cows you are milking, the more milk you are getting out of them, and the more profitable your business becomes.'

"Some of the actions that we have taken to improve fertility include having excellent data entry and using a computer program so I can look up any cow at any time and know exactly where they are going.

"Having professional veterinary services coming in regularly is a strategy that has made a big difference. Not only do they help with your herd fertility, they give you a report to tell you what areas you need to improve."

Good facilities including automatic drafting and staff training have also played a part in the Tate's story of success.

"Another thing that has really helped in the herd is transition cow feeding – for us that means when a cow is 21-days off having a calf she is fed a specialised lead feed pellet along with ensuring we have staff who have undertaken training in a Dairy Australia transition cow management course."

We are here for Australians

Key points

- ✔ Dairy Australia adapts their marketing plans during COVID-19
- ✔ New online farm tour video for children released
- ✔ June 1 marks the 20th annual World Milk Day.

FOR many organisations, the COVID-19 lockdowns and social distancing impacted planned marketing initiatives and events.

In April, Dairy Australia adapted their marketing plans to respond and communicate with Australians on what matters to them during this time.

Insights showed consumers were seeking information on dairy related to storage and safety.

Demand for dairy also shifted, with retail sales across all dairy categories increasing and consumers seeking at home usage ideas and inspiration.

The strong consumer support and demand for dairy provided an opportunity to continue to build brand presence and demonstrate the industry's values and commitment to providing fresh and nutritious milk to Australians.

To communicate with the Australian public that the dairy community is "here for you" Dairy Australia developed a TV commercial using footage sourced from farmers, processors and consumers during the coronavirus lockdown.

This commercial was designed to acknowledge that Australians have been here for the dairy community in our toughest times, and to show that the Australian dairy community is proud to now be here for our nation in these times.

Dairy Australia's communications strategy manager Glenys Zucco said we felt it was important to let Australians know their health, nutrition and food supply matters.

And as a community, dairy is here for them.

"While panic buying eventually stopped, we still wanted to reassure Aussies that our dairy families continue to be here for them," Ms Zucco said.

A combination of existing footage and new mobile phone footage was used to create the commercial showcasing the dairy community proudly holding up handmade signs with the words "Here for you".

Gippsland dairy farmer, Stuart Griffin (pictured with his family), lent his voice to the Dairy Australia commercial to deliver a heartfelt message to the Australian public.

The Dairy Australia commercial featured in prime-time spots, reaching about 3.8 million people across metro and regional areas.

More than 60 farming families and processors sent in their footage.

Gippsland dairy farmer, Stuart Griffin, lent his voice to the commercial to deliver an authentic and heartfelt message to the Australian public.

"Dairy farmers have faced our share of challenges in recent years, but the public has stood by us buying Australian dairy products," he said.

"This commercial was an opportunity to show our appreciation for that support and that we're here, working hard to ensure that Australians can continue to enjoy fresh nutritious dairy despite the restrictions of COVID-19."

A 60-second video and two shorter versions (30 and 15 seconds) were played on TV and social media channels nationally from May 10 for four weeks.

The commercial featured in prime-time spots including *Lego Masters finale, The Voice, Doctor Doctor, Nine News* and *A Current Affair* reaching about 3.8 million people across metro and regional areas.

After only two weeks Dairy Australia's social media posts reached 57,449 Australians, with 35,612 video views.

'This World Milk Day we're saying thanks to you and celebrating your hard work...'

To view the video visit dairymatters.com.au

Kids discovering dairy online

With many of the nation's school children learning from home in recent months, teachers and parents have been searching for online resources to help educate and entertain kids.

To support teachers and parents, and drive dairy education at home, Dairy Australia increased promotion of its online Discover Dairy education hub www.dairy.edu.au, through social media, direct emails and through parent influencers.

In addition to promoting existing free curriculum-aligned resources, Dairy Australia released a new farm tour video, giving children a virtual experience of daily life on a dairy farm.

Dairy Australia schools coordinator Jennie Annand said the video featuring Tasmanian farmer Ben Geard gave an important insight into a day in the life of a dairy farmer.

"With teachers and students unable to attend excursions and incursions, which include farm tours, we saw this as a really positive opportunity to bring the farm tour experience to life in the classroom," she said.

Engagement with Discover Dairy has grown considerably with a 43 per cent increase in overall number of people using the resources and a 160pc increase in the number of resource downloads from the site since before COVID-19.

We have also seen a huge spike in users emailing resources to friends in April, increasing by 600pc, showing the value of the online platform for teachers and parents during COVID-19.

Despite children learning from home, the popular Picasso Cows program continued to run during term two.

While not all schools have been able to engage with their fibreglass cows, several schools have continued to participate by working through the online resources and completing their dairy learning journals.

Remaining Picasso Cows will be delivered for schools to complete the program by the end of term three.

Browny tells Aussies why milk matters this World Milk Day

June 1 marked the 20th annual World Milk Day established by the Food and Agriculture Organisation of the United Nations to recognise the importance of milk as a global food, and to celebrate the dairy sector.

This year, Dairy Australia celebrated the many reasons why milk matters; for our health, strong bones and muscle, delicious meals, and regional jobs.

It was also an opportunity to highlight and celebrate our hardworking dairy farmers who provide fresh, nutritious milk every day.

Working with dairy industry ambassador and Aussie rules legend Jonathan Brown and other dairy supporters, including celebrity chef Matt Moran and lifestyle expert Emma Hawkins, Dairy Australia showcased the important role milk and dairy foods play in the fabric of our communities.

"This World Milk Day we're saying thanks to you and celebrating your hard work ... thank you to all the farmers, producers and communities that make up Australia's fantastic dairy industry," Jonathan said.

He encouraged Australians to show their support for dairy and participate in a Milk Bottle Challenge.

Tasmanian farmer Ben Geard provided an important insight for students into a day in the life of a dairy farmer via a farm tour video.

Australians were asked to pull on their footy boots (regardless of the code they followed) and complete a trick shot between two milk bottles to show their support for the Aussie dairy farming community.

Jonathan shared a trick shot of himself kicking a footy through milk bottle 'goal posts' and spoke about the importance of milk on his morning radio show on NOVA FM.

Geelong forward Tom Hawkins and players from St Kilda Football Club also participated in the challenge, and shared why milk matters to their performance and recovery as professional athletes.

On social medial, the hashtags #milkbottlechallenge and #WorldMilkDay were trending, which added to the global 'celebration' on the day.

Visit dairy.com.au/worldmilkday D

Keeping in touch with trade partners

EXPORT markets, consuming more than a third of Australia's milk production, are clearly important for Australian dairy.

Ensuring our reputation for producing some of the safest and highest quality dairy products globally in these markets is a key element of the Dairy Australia International Trade programs.

Dairy Australia is working hard during the COVID-19 travel restrictions to find innovative ways to remain present in market, ensuring the good news story of clean and safe Australian dairy continues to be told.

These new digital initiatives include:

- Webinars updating our international markets on the latest in Australian dairy
- Online meetings with key companies in Japan
- New social media platforms including Facebook discussion groups and a WeChat account for the China market
- A short video demonstrating that Australian dairy very much remains open for business as a trusted supplier of quality produce
- Launching this year's Australian Dairy Discovery recipe book showcasing the best of Australian Dairy with Japanese and Chinese language versions
- Local language online learning modules are also planned to tell the story of Australia's high-quality dairy food safety system.

Our digital initiatives focus on Australian dairy as a premium product, bringing the message to international markets that Australia is, and will continue to remain, open for business.

Focus on improved irrigation decisions

Key points

- ✔ Better managed irrigation water is critical
- ✔ Scheduling irrigation start-up needs to be adopted
- ✔ Improved irrigation infrastructure maintenance is a SIP2 focus.

By **Marguerite White, SIP2 dairy optimisation sites co-ordinator**

AUSTRALIAN dairy farmers are increasingly looking to better manage irrigation water as a key input in farming systems across the country.

This is a critical part of better business for dairy irrigators.

In response, Dairy Australia is focused on ensuring farmers have access to the best information to effectively and efficiently use irrigation water through the three-year Smarter Irrigation for Profit Phase 2 (SIP2) project, *What's my yield gap? Maximising Water Productivity.*

SIP2 is a cross-industry investment of $22 million funded by the Department of Agriculture, Water and the Environment's Rural R&D for Profit program and Dairy Australia.

SIP2 builds on the SIP1 program (2016-18) which found pasture productivity and profitability can be improved through better irrigation scheduling and system maintenance.

SIP2 aims to fast-track the adoption of these key principles by showcasing these strategies on real farms in current conditions around Australia.

Across 10 sites on mainland Australia, SIP2 measures the lost and potential opportunities to increase production under irrigation and applies basic principles to more advanced technologies to close the yield gap.

Each site is supported by a site co-ordinator who works with a reference group comprising service providers and dairy irrigators, to determine locally relevant research questions.

Strategies along with data analysis will help answer local site questions.

Reference groups will have ongoing input into decision making and evaluation of efficiency and economic outcomes over the three-year project.

Project co-ordinator Marguerite White said there were substantial gains for farmers in irrigation scheduling and irrigation system maintenance no matter what region or system.

Sally Field is the Dairy Optimisation Site farmer for Gippsland's Yarram region pictured with one of three Enviro-Pro ® probes with Wildeye ® telemetry installed under her nine-hectare centre pivot.

Scheduling

Scheduling irrigation start-up to avoid moisture deficits is one of the low-cost, high impact practices the industry needs to adopt.

Previous research by the Tasmanian Institute of Agriculture (TIA) has found that for each day irrigation start-up was delayed beyond the optimal readily available water (RAW) range, pasture yield penalties equivalent to 105kg DM/ha/day's delay were experienced.

Throughout the season, irrigations after rainfall events often occurred too late because irrigators underestimate the impact of evapotranspiration (ETo) and the variability of this moisture loss across soil and plant types.

Once soil moisture falls below the point at which irrigation should occur (refill point), the ability to raise levels back into the readily available water (RAW) zone is highly dependent upon the capacity of the irrigation system to apply enough water to replenish soil moisture levels as well as meet ongoing ETo demands.

Irrigators are then potentially forced to make reactive decisions to either use expensive peak energy to operate irrigators for longer or continue to maintain soil moisture at a sub-optimal level, impacting active plant growth. It can become an expensive catch-up game.

"We know that better scheduling at the start of the season and after rainfall can improve production by at least 10 kilograms of dry matter per hectare per day," Ms White said.

"This gain is substantial as the costs to irrigators is the time taken to access and set-up a freely available weather-based water balance scheduling tool, like IrriPasture, as a starting practice.

"Installation of soil moisture probes with loggers and telemetry for real-time smartphone access, about a $1500 investment, is also ideal.

"This way, irrigators can quickly assess the effectiveness of both rainfall and irrigation and better forecast when and how much to irrigate to keep soil moisture in the RAW."

Both of these technologies are being used across all SIP2 optimisation sites to better inform irrigation scheduling.

A benefit is tracking growth rates and total yields throughout the nominated irrigation season for each site.

Over the three years of the project, a narrowing of the gap between potential and actual yield is expected.

'We know that better scheduling at the start of the season and after rainfall can improve production by at least 10 kilograms of dry matter per hectare per day.'

Each site has been modelled by TIA, using the industry's *DairyMod*, to determine an optimal yield benchmark.

The model uses local climatic data, soil physical characteristics, plant type and optimal soil moisture to determine potential yield in a non-nutrient or nitrogen constrained scenario.

"We are using a combination of methods to measure dry matter, from rising plate meters to c-dax electronic meters, and on Murray Dairy's maize crop site we are biomass sampling at critical plant development stages to assess quality also," Ms White said.

"All sites are using an online satellite imagery platform to better track and forecast growth rates to inform irrigation requirements as well as evaluate the outcomes of improved practices over the three years.

For pasture systems this is Pasture.io and for cropping, we are using IrrSAT."

Irrigation requirement data from each regional site is being used to keep irrigators informed about the outcomes of irrigation scheduling decisions. This information is shared with reference group members farms and is communicated through regular reports.

Maintenance

Improved irrigation infrastructure maintenance is another SIP2 focus to boost productivity and profitability on-farm.

The potential energy, water and production efficiencies that can come from preparing systems before the season, and monitoring the use of power and water throughout the season is critical.

Irrigation evaluation specialist and Tocal NSW site co-ordinator, Peter Smith, said if you don't check your system there is a high likelihood a failure of a component will occur in the peak that may take several days to repair.

Meanwhile, you could be losing soil moisture rapidly and this has a longer-term impact upon production.

In 2020, eight sites with centre pivots or a solid-set irrigation system have had their irrigation performance evaluated. While there is an initial outlay of $2000 to $4000 the payback is clearly evident.

A good example is looking at how even the irrigator applies water, Mr Smith said.

The depth of irrigation collected from across the irrigated area is used to calculate a uniformity measure called the coefficient of uniformity (CU). A CU of more than 85 per cent is considered the benchmark for overhead pressurised systems.

Not addressing uniformity issues is believed to be costing dairy irrigators greatly as evidenced by the project results which show that there are certainly improvements to be made across most *Optimisation Sites* with CU ranging from 77 to 88pc.

Unintended under-watering caused by poor control panel calibration is also being addressed. Recent evaluations have picked up that systems are applying 20 to 38pc less water than the application rate set on the control panel.

Poor pump performance can be a big hit to the input costs of operating irrigation systems.

Peter Smith, Sapphire Irrigation, evaluates the performance of the pump at one of 10 SIP2 Dairy Optimisation Sites.

Download the *Pre-Season Irrigation System Checklists* https://www.dairyaustralia.com.au/farm/land-water-carbon/water-and-irrigation/smarter-irrigation-for-profit

Contact your local RDP or Marguerite White on 0447 500 415 or mwhite@icdprojectservices.com.au.

Driving efficiency on dairy farms

Key points

- ✔ Simplified processes help people working in the business do things better
- ✔ Important to create open, transparent workplaces where teams are engaged
- ✔ Setting up the farm in a more logical way could reduce waste.

By **Carlene Dowie**

DAIRY farms could boost efficiency and returns by taking a lean management approach, the Australian Dairy Conference earlier this year was told.

Jana Hocken, who worked as an engineer with Toyota and a lean management consultant across the globe, was horrified by what she saw on-farm when she and her husband took on the management of his family's 1000-cow operation.

But she realised the same lean management principles she had helped introduce to large businesses could be applied successfully on farms.

"One of the definitions of lean is the relentless pursuit of identifying and eliminating waste in all forms in order to improve business performance and customer satisfaction," she said.

"If we look at our processes in the eyes of customers ... and we define value in the eyes of our customer, then 95 per cent and sometimes more of our processes are non valued-added in the eyes of customers."

But this created the opportunity.

These processes could be simplified or reduced without having any impact on the customer.

This would not change the milk price or government regulation or any of the other external pressures on the business, but it would help people working in the business do things in a better way.

It would mean fewer resources and less time was needed to do things.

Ms Hocken said waste in lean management fell into eight categories, that could be represented by the acronym DOWNTIME:

Defect - when things go wrong, fix a fence, milk goes down the drain, cows in the wrong paddock.

Overproduction - for example, stock, feed, so using resources for something not needed.

Waiting - for animals, decisions, supplies.

'If you do right things the right way, you'll get right results.'

Not-Utilised people - particularly not listening to people's ideas that could make processes better.

Transportation - moving stuff around unnecessarily, such as moving a pile of feed or mineral from one place to another.

Inventory - having more of what is needed, for example buying medications that were not needed that expire.

Motion - people moving around when not needed.

Extra processing - doing more than is required to get an outcome.

Ms Hocken said it was vital to establish clear, standardised processes for tasks done on the farm.

The keys were to provide specific directions, use visualisation where possible and ensure people understood the end outcome.

It was also important to create open, transparent workplaces where teams were engaged and empowered and there was two-way discussion, where people could ask questions and receive feedback.

Ms Hocken provided an idea of what this waste could look like on a dairy farm.

Simplifying processes and setting up the farm in a more logical way could reduce waste in many areas: pasture, feed, effluent, labour, resources used and time.

She gave a specific example of a change implemented on their farm in Teat Seal treatment.

Under the old system, five staff members did full treatment on individual cows on particular parts of the stationary rotary platform.

Under the lean system, the process was turned into something like an assembly line.

The rotary moved at a 20-second intervals and each person was allocated a specific task to do on every cow and the five staff members stood side by side around the platform.

One person cleaned the back teats, the next person sealed the back teats, the next person cleaned the front teats, the next person sealed the front teats, and the last person painted the cow red/orange and teat sprayed.

Jana Hocken says a lean management approach means fewer resources and less time are needed to do tasks on farms.

The change cut the time spent from six hours to two hours, reduced the number of Teat Seal tubes used, and reduced the subsequent number of cows with mastitis, halving the cost of antibiotic used on the farm.

"All we did was change the process, some impressive results just by thinking differently about how you do things," Ms Hocken said.

The change produced a 66pc reduction in time, a 9pc reduction in Teat Seal, a 43pc reduction in mastitis and a 26pc reduction in costs.

It also reduced the stress on the animal and the people, which also reduced the amount of effluent and the water needed to clean it up.

"If you do right things the right way, you'll get right results," Ms Hocken said. Looking after the environment, animals and land was good for business, it made business sense.

Ms Hocken has written a book, *The Lean Dairy Farm*, on how she applied these principles on a dairy farm.

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Investing in cows grows wealth in dairy

Key points

- ✔ Dairy journey started in 1989
- ✔ Nicholsons milk 180 cows all year round
- ✔ Contract silage business a helpful addition to the farming operation.

IT MIGHT have taken the Nicholsons 30 years to put their name on the mortgage but it was an investment well worth the wait for the next generation.

Megan and Geoff Nicholson started their dairy journey as lease farmers in 1989 having moved back to her home town of Taree, NSW, from the United Kingdom where they met.

"Geoff was from a beef, sheep and cropping farm but neither of us had particular dairy experience but we decided to give it go and loved it," Mrs Nicholson said.

They started milking 30 cows on a 48-hectare farm.

"Looking back it was a huge learning curve for both of us," she said.

"Geoff has always loved cropping and growing pasture so it wasn't too much trouble transferring his knowledge from the UK to here. It was just learning about cow health and breeding systems with a milking herd."

The Nicholsons put any money they had into building their herd numbers.

"Investing in cows was a way to grow wealth and we thought that was a good return for us," she said.

At the peak of their leasing days, they milked 300 cows and employed two full-time staff.

But in 2015 when their lease was not up for renewal, they had to make some tough decisions - stay in dairy or look at the alternatives.

"Every time we looked at different options we always came back to dairy," she said.

"The whole cycle is what we love of looking after the land, growing pasture and feed for cows and seeing that come back into the production while rearing the offspring with genetics and producing food for people."

With the stock numbers on their side, they purchased their first farm with son Sam and his wife Rachel.

"Our dream was to always to own our own farm," she said.

Megan Nicholson with her 15-month-old grandson Albert at their Taree dairy in the Manning Valley. Photo: Rachel Nicholson

"At times it was hard and times were tough, we've gone through floods and droughts.

"And sometimes I thought we would never get there but we promised each other that we would always work together and in farming so it stuck."

They now milk 180 cows all year round on 101ha located on the banks of the Manning River.

Their season has seen an "amazing turn around" since the start of the year where they are now able to cut silage and conserve winter feed. But while it's green and they've had rain, they are still feeling the effects of drought.

"The drought hasn't finished for us, we had to buy in hay every six weeks and are paying that off from six months ago," she said.

What has helped is that Mr Nicholson and his son run a contract silage business in addition to the farming operation.

Currently, they are also going through succession planning with their son Sam with considerations for other sons Richard, who is a beef farmer, and Chris, a cabinet maker.

"It's important to get this right,' she said.

"For me, the future is bright with Geoff and I here to support the next generation through the transition, who are positive about a future in dairy. It gave us 30 years of a great life and we want to be able to give back."

Megan Nicholson says the future is bright and the next generation is positive about a future in dairy.

'Investing in cows was a way to grow wealth and we thought that was a good return for us.'

As chairwoman of the newly formed NSW Women in Dairy, she said women's roles had changed on-farm.

"Thirty years ago you were the farmers' wife, you raised the kids and reared the calves and were not regarded as an equal part of the business," he said.

"But within that 30 years there have been positive changes and the next generation is emerging with skills that they contribute to each business.

"They have shown how many women hold dairy businesses together as they seek leadership and advice in tough times."

The NSW Women in Dairy Bale Up committee, whose vision is making sure women in dairy are supported and connected, are working towards the next conference, which was postponed due to COVID-19.

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Creating wealth for dairy future

Key points

- ✔ Dairying couple overcome challenges
- ✔ Bega Cheese looked after the farmers affected by bushfires
- ✔ Consumers are becoming more aware of where their foods come from.

By **Samantha Townsend**

Brodie Game who runs Blackjack Holsteins with her husband Kevin at Bemboka on the NSW south coast. She is pictured with her children Roy, 3, and eight-month-old Harry. Photo: Kevin Game

WHAT started as two cows a decade ago has now grown to a 300-cow milking herd on the NSW south coast.

But for Brodie Game it has not been an easy road.

Mrs Game and her husband Kevin, who run Blackjack Holsteins at Bemboka, NSW, have battled more than most entering the industry.

They have overcome low milk prices, high production costs, a disease that wiped out much of their herd, drought and bushfires.

Despite those obstacles, the Games are going to stick to their plan and that's create wealth.

And they are more determined than ever to carve out a name for themselves in an industry they have grown to love.

"We love what we do and whenever we get into a rough patch we remember that because our herd is like our family and home is where our herd is," Mrs Game said.

"Kev always says if you make your obsession your profession then you never have to work a day in your life."

To continue growing their herd and capital they started rearing bull calves, using milk from the cows they had. They milked the cows using a single-stand milker they set up in a race.

"Bull calves are an underutilised side of the dairy industry, so we would buy them from farms or in the saleyards cheap," she said.

They found a buyer and grew the calves out to three-months-old before they were sold.

At the end of 2012, they had saved enough money to purchase additional cows and moved back to Bega to start share farming.

They arrived with the five original cows.

A week later the rest of the new herd arrived, an additional 90 cows they purchased and 120 purchased by their share farmer.

But five months in, milk prices plummeted, the season turned dry and the herd they bought into the area got hit by Theileria where they lost 30 cows.

With help from the local veterinarians, they got through that and found their "groove again".

It wasn't too long before they were hit again by another obstacle.

"The share farmer we went into partnership with didn't want to do it anymore," she said.

"So we either had to sell everything or go into full-blown leasing. I was genuinely upset with the prospect of losing our new dairy venture and for the first time had realised I didn't want to do anything else as I had found something that I loved and Kev was the same.

"It was silly to give up everything we had saved for so we threw ourselves in the deep end and have learned on the run."

The Games took out a loan to purchase more cows, leased more land and went out on their own to supply Bega Cheese. They do everything on their 445-hectare property, employing two full-time staff and not using contractors.

As they have their own gear, they manage their own sowing of silage, focusing on 76ha of irrigation using a bike-shift system drawing water from the Bemboka River.

When they renovated the farm, they installed a traveller irrigation, to tow along the paddocks, which was less labour intensive.

Before February, their dam that holds 100 megalitres, ran out of water for the first time since 1980.

'There will always be a future for dairy it's just whether us as young farmers and lessees who don't own their own farm, can keep up with the advancement in technology to remain competitive. But we will always love what we do.'

Brodie Game from the NSW south coast. Photo Kevin Game

Brodie Game takes her children Roy and Harry with her around the farm to feed calves and manage heifers.

Like most farms along the river, they were allocated enough water to run the dairy for stock and domestic use under the water scheme.

"It was tough with the drought but we had a good drop of rain in February, which put water in dams and rivers," she said.

But yet again another hurdle was thrown their way last year as Mother Nature delivered a blow. Not only did they battle the drought but they were hit by bushfires.

"We were lucky at our main farm as our boundary is the Bemboka River and there was a southerly change at the last minute so it didn't impact us here," she said.

"However we have just taken out the lease of another farm (162ha) that was completely burned out."

She said Bega Cheese looked after the farmers affected by bushfires paying for dumped milk and supplying generators to those without power.

"Roads were closed to our farm but Bega Cheese worked with the transport authorities and police to get the tankers to us," she said.

When asked why they stayed in farming after all these hurdles, Mrs Game said: "you have to love it to pull through it".

"We have learned from everything we have gone through," she said.

"Sure it hasn't been an easy journey but we do love it. We don't believe in luck, it's management and opportunity.

"We borrowed $300,000 to buy cows and essentially we will have them paid off in five to six years, there aren't many industries that can do that. If you borrow money to buy a house it takes 30 years to pay it off.

"We are not cash rich and our cash flow looks terrible but we are creating wealth that a lot of other industries can't create and as long as you can keep that in your mind it is quite rewarding."

Back on the farm, Mrs Game takes her young children Roy, three, and eight-month-old Harry around to feed the calves and manage heifers.

"I do feel bad some days when I'm dragging them around feeding but if you compare it to kids in the city who don't have a backyard, they have a good life on the farm," she said.

In terms of the future of the industry, Mrs Game said consumers were becoming more aware of where their foods come from in the COVID-19 pandemic.

"Agriculture will come out of this fairly well. People are already starting to share on social media what milk brands are Australian owned.

"There will always be a future for dairy. It's just whether us as young farmers and lessees who don't own their own farm, can keep up with the advancement in technology to remain competitive. But we will always love what we do." D

Leasing of ag land on the rise

Key points

- ✔ Farmers find limited purchasing opportunities of land
- ✔ More land becoming available to lease
- ✔ Leasing enables farmers to expand.

LEASING land is set to become increasingly common in the Australian agricultural sector, as farmers seek to expand in an environment of limited purchasing opportunities, according to a new industry report.

In its research report 'A New Lease on Land', agricultural banking specialist Rabobank said the incentives for leasing agricultural land were becoming more compelling for both tenants and landlords alike.

Report author, Rabobank analyst Wes Lefroy, said leasing land provided the opportunity to "unlock scale for a growing number of farmers" in an environment where there were limited properties available for purchase.

It also offered farm operators the option to adopt alternative business models and ownership structures.

While land owners, the report said, were increasingly likely to lease out property, as agricultural land became a more attractive investment class and with leasing offering a flexible option for succession planning.

And while leasing would continue to be more common among certain farm types and sizes – particularly larger farms and cropping enterprises – Mr Lefroy said it was important all farmers considered the value of leasing land as part of their expansion strategies.

"The incentives for Australian farmers to lease a share of their operated area are already strong," he said. "Our recent research indicating 28 per cent of farmers across the country lease some proportion of their operated area. And of those, 11pc had increased the area of land they lease in 2019.*

"Over the next two years, we see the motivation for both current and prospective tenants and landlords to lease to become even stronger."

Current leasing levels

On a state-by-state basis, the percentage of farmers currently operating leased land varied considerably, the report said, with differences primarily driven by structural factors, including farm size and production type, but also by market dynamics, such as price growth and property availability.

'Over the next two years, we see the motivation for both current and prospective tenants and landlords to lease to become even stronger.'

"For example, leasing is more common in South Australia and Western Australia, where there are many large grain producers. In those states, our research showed 45pc and 38pc of farmers respectively lease some area of land they operate," Mr Lefroy said.

"This is in contrast to NSW, where a greater proportion of livestock producers are located, and only 17pc of farmers lease land."

Farm growth opportunities

The report said leasing enabled farmers to expand operations either as a permanent alternative to buying land or as a pathway to buying in the future. It could also overcome a lack of purchasing opportunities.

Mr Lefroy said the number of agricultural properties offered for sale in Australia had fallen between 40 and 50pc in all states from 2014 to 2018.

"While we expect the number of properties on the market to increase slightly in 2020, it will remain near historically low levels," he said.

"Farmers looking to expand may be forced to turn to leasing, unable to buy the right property at the right price."

The report said leasing instead of purchasing land enabled farmers to adopt non-traditional business models, such as sale and lease-back or equity partnerships.

"This can assist farm businesses to direct capital towards other assets, such as infrastructure, instead of land," Mr Lefroy said.

Leasing also helped mitigate risk.

"This is both by enabling farmers to expand without taking on debt for land purchase, and also by acting to mitigate the impact of weather on profit variability by diversifying the locations in which they farm," Mr Lefroy said.

Rabobank analyst Wes Lefroy.

Increasing availability

The report predicts an increase in the amount of Australian agricultural land that will be available for lease, driven by improved investment returns and an acceleration of farmers retiring from the industry.

"We expect capital appreciation of ag land to remain healthy across many regions in Australia over the next three years, while it is also not as volatile as a number of other assets, which is valued by investors."

With 2020 expected to see an increase in the number of farmers choosing to leave the sector, for lifestyle reasons, especially in drought-impacted regions, more land may be offered for lease.

"The option of leasing out land enables exiting farmers to achieve a lifestyle change while still waiting for the drought to break before selling, if at all," Mr Lefroy said.

The suitability of leasing rather than buying was not for all though, the report said.

Global experience

The report said international experience showed leasing could also increase in a depressed property market.

"During the US farm crisis of the 1980s and subsequent drought, land prices in Iowa fell by more than 50pc in real terms from 1982 to 1987," Mr Lefroy said.

"The area of farmland under lease increased from 21pc to 2pc.

"Where farmers did not have to sell to meet debt obligations, leasing enabled Iowan farmland owners to achieve lifestyle changes and avoid selling in a low market."

**Rabobank Rural Confidence Survey December 2019*

Seasonal turn supports herd expansion

Key points

- ✔ Herd nearly doubles in a space of two weeks
- ✔ Dairy gives perfect work-life balance
- ✔ Dairy leadership programs spark interest in getting more young people in the industry.

THE Middlebrooks who have been dairying in Gloucester, NSW, for 109 years have nearly doubled the size of their dairy milking herd in a space of two weeks.

They have done this by buying an additional 200 cows due to a neighbouring farm dispersal.

But this opportunity would not have been available last year due to the devastating dry conditions on their property Bowman Farm.

"Our season last year was horrific," said Olivia Middlebrook, who runs the property with her parents Trevor and Kelly, brother Tom and partner Kyle Rush.

"For us, in a normal 12-month period our bought-in feed bill is $600,000 but in the first eight months of last year we spent $1.3 million."

At the time they had limited government support and relied on the generosity of their community.

"The community support was unbelievable, people even bought water for us anonymously," she said.

Their season turned around after nearly one metre of rain fell on their 1214-hectare property in January.

"We have now put away enough feed to get through until the end of the year and we are grazing twice daily, which is how we have been able to take on extra cows," she said.

Ms Middlebrook is the fourth generation on the farm.

"I'm the herd manager doing everything from health to breeding and rearing the calves," she said.

"Dad runs the business, the boys do the pasture and machinery, and mum's the queen who holds everything together. We all milk and rotate turns on the weekend."

Olivia Middlebrook, Gloucester.

Being a family operation made for the "perfect work-life balance", she said.

"I'm up at 4am to 8am milking then I spend time with my three-year-old Henry then back to milking in the afternoon," she said.

She is passionate about getting more young people in the industry after undertaking dairy leadership programs.

Investing in strong dairy future

Key points

- ✔ New $700,000 dairy sets up Terang farmer for expansion
- ✔ Costs were cut by integrating existing technology
- ✔ Construction was completed in less than four months.

A NEW 60-unit rotary dairy built by 360 Dairy Solutions will help Terang farmer Wayne Johnstone to expand his herd and cut his production costs.

The $700,000 dairy is now in use and is proving to be a great success by improving cow flow and reducing milking times and costs.

This is the first 60-unit rotary dairy coordinated by 360 Dairy Solutions, which is part of the Terang Co-op, since 2014.

The new facility follows the farm's expansion late last year with the purchase of 55 hectares from a neighbouring property.

All the work was done by south-west Victorian contractors, with the exception of the Integra Sheds from Swan Hill.

360 Dairy Solutions is a dealer for Integra Sheds.

Costs were reduced by seamlessly integrating existing technology into the new set-up.

Mr Johnstone said the investment was a show of confidence in the dairy industry.

He has already increased his milking herd to 750 and now plans to grow beyond 800.

"We've started milking and it's terrific; I couldn't be happier," he said.

"The cows are walking in easily and milking well."

Mr Johnstone had faced the prospect of updating his old 50-unit dairy or building a new one.

"The old dairy was worn out," he said.

"It was more than 20 years old and I was struggling with it.

"I got quotes for repair but they were almost as much as building a new one so I'm very happy I've gone down this line."

The new structure has been built alongside the old dairy, which will be demolished and turned into a holding area.

"The big win is that I've been able to keep milking," Mr Johnstone said.

Wayne Johnstone, 360 Dairy Services technician Will Brumley and Wayne's employee Tyson Prout.

'I've built a new dairy and haven't lost any production which saved quite a bit of money. If I had to stop milking for eight weeks it wouldn't have been so good.'

"I've built a new dairy and haven't lost any production which saved quite a bit of money.

"If I had to stop milking for eight weeks it wouldn't have been so good."

While the adjustment has been easy for the cows, staff have also appreciated the new dairy.

"The John Lee platform makes milking a lot more comfortable for the cows and the operator," Mr Johnstone said.

"Ten extra machines might not sound like a lot, but it will allow you to milk 80 to 100 cows more per hour," he said.

"The cow flow is much better. We should be able to do it in about two hours and 15 minutes."

"It will be a saving in time, energy and wages."

Mr Johnstone praised the team from Terang Co-op's 360 Dairy Solutions.

"They managed it really well and have done a great job," he said.

"We got it done for about $700,000 including a new shed, which is pretty good for a new dairy using a minimal amount of old machinery.

"Concreter Wayne Saunders did a great job integrating the old with the new.

"It was a necessary investment because the other dairy was dying, but the industry is going well at the moment and we are confident it will be a good investment over time.

"It was great that 360 Dairy Solutions could do it and keep the work in our region."

360 Dairy Solutions manager Chris Fitzgerald said the construction had been very successful and was completed in less than four months

"It's gone 100 per cent; Wayne has been very positive about it all the way through," he said.

"We came in just under the $700,000 budget and only a few days over the expected completion date.

"You could expect to pay double this amount for a new 60-unit dairy so it has been a great outcome."

Mr Fitzgerald the new dairy was functioning efficiently and had started without a hitch.

"We've reclaimed and upgraded much of the old dairy's Milfos equipment and the Gen Tech ID system, recovered his flow sense meters and future-proofed the plant with Tri-Clover parts so new equipment can be upgraded without having to re-do the milk line," he said.

A variable speed pump has been installed and covered by a sound-proof room.

The dairy also has a cleaning system which allows the platform to spin while being washed.

"That means Wayne can do A.I. or preg testing on the platform while it's washing," Mr Fitzgerald added.

A Teat Wand Exactor for teat spraying will reduce chemical use and improve productivity.

"It has been a great project and everyone's impressed with the results," Mr Fitzgerald said.

360 Dairy Solutions is about to start building a new 25-swingover herringbone dairy and round holding yard at Wangoom.

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D. Liang, D., Arnold, L.M., Stowe, C.J., Harmon, R. J., Bewley, J. M. (2017). Estimating US dairy clinical disease costs with a stochastic simulation model. Journal of Dairy Science, 100 (2), 1472-1486.

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Alta

Archers win fourth business award

Key points

- ✔ The Archers have won the Dairy Business of the Year Award at each farm they have managed
- ✔ The Archers focused on pasture improvement, soil fertility and the farm layout
- ✔ Budgeting and planning is an important part of managing dairy farms.

GRANT and Kim Archer own two dairy farms within their Active Dairies Pty Ltd business.

They have won the 2020 ANZ Dairy Business of the Year Award with their Mountain Vale dairy farm located at Bracknell in the central north of Tasmania.

The Archers have had an extensive career in the dairy industry.

At the beginning of his dairy career, Mr Archer worked on his family's Circular Head dairy farm, then transitioned into share farming and then purchased the family farm.

After many successful years there, they moved their family to the central north of Tasmania.

They retain ownership of the farm in Circular Head and have a stable share farming partnership there with Leigh and Kellie Schuuring.

After moving away from their farm, Grant and Kim were keen to stay active in the dairy industry.

They became involved in the conversion and development of two further dairy farms – Rosemount at Cressy with Rob and Jo Bradley and Oakdene at Perth with Bill and Jill Chilvers.

The Archers were 50/50 share farmers on each of these dairy farms.

After several years working with each of these businesses, the Archers bought a dairy farm at Liffey – Mountain Vale Dairy.

The Archers is that they have won the Dairy Business of the Year Award at each of the four dairy farm businesses they have managed.

Small beginnings

As they are familiar with managing 1000-plus cow farms, when the Archers decided to buy their own dairy farm in the central north region, they were looking for a property to milk a similar number of cows.

Their original purchase in December 2013, Mountain Vale Dairy in Liffey, was an operational dairy farm of 125 hectares milking 250 cows through a 24-unit swing-over herringbone dairy.

While the property was smaller than their initial plans, they saw potential in the region and for the farm.

In February 2014 they bought a neighbouring 134ha beef block and increased their herd to 530 cows.

While they had plans to build a new dairy, they needed to continue milking the 530 cows through the old herringbone dairy.

To make this as efficient as possible, they made some minor upgrades to the dairy ensuring these could be transferred to a new dairy.

The upgrades included:

- Auto draft at front of the dairy
- Yard blasters and pump
- Upgrading all cups to high volume claws to assist with faster milking.

The farm continued to grow with the purchase of two neighbouring blocks.

As they ended their share farming arrangements at Rosemount and Oakdene they could bring extra cows to the Bracknell farm as it grew.

Surplus cows were leased out.

Mountain Vale Dairy now has an effective milking area of 396ha (86ha is irrigated) and more than 1300 cows were milked through the 60-bail rotary dairy this season.

Farm development

In developing the farm, the Archers focused on pasture improvement, soil fertility and the farm layout.

Everything done was done properly despite the higher cost.

Mr Archer believes this saves money in the long-term as something not done well or isn't fit for purpose might save money at the time but will cost more to fix later, or cause inefficiency.

An important aspect in the farm plan is the final layout.

The dairy was placed at the centre of the farm, even though it increased costs for connecting power to the dairy and building the tanker laneway.

The benefit is long-term, with a more efficient movement of people and cows around the farm. The layout of the laneways provides efficiency of movement and were built to a high standard.

Grant and Kim Archer have won the Tasmanian Dairy Business of the Year Award for a record fourth time.

Drains were constructed alongside laneways to keep the laneways as dry as possible. The dirt from the drain excavations was used to further build-up laneways to minimise water logging.

The best gravel – hard wearing but good for the cows' feet – was sourced rather than relying on the closest/cheapest option.

Know your farm

Having managed multiple farms, the Archers have learnt the importance of knowing the strengths and weaknesses of the farm to make the most profitable strategic and operational decisions.

A SWOT analysis (Strengths, Weaknesses, Opportunities and Threats) helped prioritise farm development at Mountain Vale as well as make effective strategic decisions.

Know your business

For the Archers, formal budgeting and planning is an important part of managing dairy farms.

Having a good understanding of their business position and financial budget allowed them to purchase, develop the farm and build cow numbers quickly.It also gave them the confidence to buy extra land when the opportunity arose.

The Archers develop an annual cash flow budget as well as an annual operating plan.

They now use Xero for managing their accounts as it allows them to work more closely with their accountants.

They undertake a formal review of their budgets and plans on a quarterly basis with their accountants.

Pasture growth

Having a good understanding of their farm and business, the Archers are clear on the importance of growing and utilising pasture to their overall profitability.

They have focussed on pasture renovation to improve the pasture growth potential, carefully selecting the right cultivars for irrigated and dryland areas of the farm.

The K-line irrigation system in operation when they bought the original Liffey farm has been upgraded to one 53ha pivot, and another 33ha pivot with plans for the installation of a new 36ha pivot, increasing the irrigated area to 30pc of the whole farm area.

Existing drains have been improved and new drains added. The farm can become very wet, so drainage is important in minimising damage to the soil.

Pugging dramatically reduces pasture growth and utilisation.

Pasture can't grow well without the right nutrients, so soil testing is undertaken every year.

The farm is divided into 15 management zones based on factors such as irrigated, dryland or effluent applications.

One paddock from each zone is soil tested each year and fertiliser is applied based on the test results.

Nitrogen is applied to pasture at a rate equivalent 1 to 1.5kg nitrogen/ha/day whenever the pasture is growing.

Rotation length is actively managed to ensure paddocks are nearly always grazed at the three-leaf stage to maximise the amount of pasture grown.

The exception is in spring, when the rotation is faster – paddocks are grazed at 2 to 2.5 leaf stage to maintain quality.

The days between grazing are monitored by everyone and recorded in the farm diary.

Pasture utilisation

Alongside growing plenty of grass is the ability of making sure it is well utilised.

Philosophically, Mr Archer would rather be overstocked than understocked, as this ensures good pasture use (but not so overstocked that cow health and welfare is compromised).

'Grant and Kim have learnt the importance of knowing the strengths and weaknesses of the farm to make the most profitable strategic and operational decisions.'

Other factors the Archers focus on to ensure good pasture use are:

- Determining the right calving date to match the feed supply curve. The more pasture directly harvested, the lower the cost of production will be.
- Growing crops through spring when there is surplus pasture to enable a transfer of feed to the summer. This has also been useful with undertaking pasture renovation.
- Achieving target grazing residuals, particularly in spring to maximise quality. Each paddock is grazed to a residual of 1500 to 1700kg DM/ha.

After the last full herd grazing of a paddock, it is measured and if the target residual hasn't been reached, the amount of feed still available is calculated and a proportion of the herd (determined by amount of feed) is returned to the paddock after milking.

- Aim for moderate per cow production – if chasing too high a level of cow production, it will compromise pasture consumption.
- Have the right cow for the system – the Archers have bred crossbred cows for their good fertility, longevity and grazing ability.

Team

The Archers are people focussed. Keeping and supporting their team has been a factor they carefully consider when growing their business.

Their current farm team at Mountain Vale manager Wayne French; assistant managers Melissa Chugg and Jaimie Chilcott; dairy assistants Thomas Chugg and Kirsten Wade; milk harvesting assistant Stephen Hayes; calf rearing manager Mel Dawkins, and assistant calf rearer Megan Tubb.

The Archers believe it is important to 'put yourself in the shoes of your farm team' – "if I wouldn't like to do the job, I shouldn't expect staff to do it".

They work with their team to ensure they have the days off in the week that suits them best and they have input into when they take their holidays.

Each person has an area of responsibility and while all jobs need to be done, if someone has an interest or area of expertise, they are encouraged to develop their skills. Keeping the team happy and working well in the business is assisted by having good facilities, equipment, and machinery that is comfortable and safe to use.

The Archers aim to have a nice work environment. They conduct an annual review with each member of the team and pay above award wages.

The 10 per cent

The Archers don't just settle for doing a good job. Doing that last 10pc can make a lot of difference – attention to detail is important in achieving above average profit.

Mr Archer believes if something is important, you need to ensure you do it. Ideas don't work if they aren't implemented.

When he identifies something that might be useful in the business, for example, lead feeding, teat sealing, 16-hour milking – he works with the team to work out the practicalities and then puts it into practice.

Innovation is important just because something isn't being done, doesn't mean it won't work.

The Archers have developed a price matrix to purchase silage based on its quality. While this is something that gets talked about a lot, most silage is still purchased on a hyphenate basis. The Archers identified silage as an important part of their milk production system, given their high proportion of dryland.

Their previous farms had higher rainfall or were fully irrigated so silage tended to be a smaller component of the diet, usually later in the lactation.

At Mountain Vale, silage is a large part of the diet for at least half the lactation – about 1t DM/cow is fed each year.

Silage quality has a big impact on milk production. Knowing the importance of silage quality to their business, they developed a price matrix (the higher the quality, the higher the price) and worked with their suppliers.

When the silage is delivered, it is weighed and a feed test is taken three to four weeks later.

If the silage is 12 MJ ME/kg DM, they pay a certain amount, if it is 11 MJ ME/kg DM they pay a lower amount.

Protein levels are also part of the price matrix.

In the few seasons they have been paying for silage based on quality they have seen significant benefits.

Career switch reaps dairy dividends

Key points

- ✔ South Americans make their mark on Tasmanian dairy
- ✔ Focus on developing skills in pasture management
- ✔ Strong work ethic, excellent communication and attention to detail pillars of business.

GENARO and Rosselyn Velasquez share farm in Tasmania's far north-west at Edith Creek on Michael and Cheryl Hughes' 143-hectare farm, milking 465 Jersey cross-bred cows, on an effective milking area of 122ha.

The couple are share farming on a cents per kilogram of milk solids payment arrangement, supplying their own labour and motorbikes.

The farm is highly productive with a stocking rate of 3.8 cows/ha, producing 207,000kg MS or 1750kg MS/ha for the 2018/19 season. This is a 10 per cent lift on the previous season.

Currently, the farm is on target to increase production to 212,000kg MS for the 2019/20 season.

Milk production per cow is about 450kg MS, which is 96pc of the cow's body weight.

While the cows have a small stature, they are of high genetic merit and have excellent components and feed conversion efficiency.

The couple are in their second season on this farm after spending the previous season managing a 900-cow dairy farm at Arthur River.

The Journey

Their journey to the Edith Creek farm has been a much longer road trip than from Arthur River to Edith Creek.

They emigrated from Venezuela in 2009, travelling 17,000 kilometres to Australia to leave the worsening political and social crisis.

They both came to Australia possessing veterinarian qualifications but found the cost of retraining in Australia prohibitive and so with little knowledge of commercial large-scale dairy farming set about learning as much as possible to set themselves on a new career path.

They were originally employed on a large beef property and then moved to a position on a 900-cow dairy farm in the Hunter Valley, NSW, progressing from farm hands to herd managers.

'While the cows have a small stature, they are of high genetic merit and have excellent components and feed conversion efficiency.'

Ambitious and hungry for knowledge and experience, they outgrew their roles as herd managers and in 2016 moved to Tasmania to manage a high rainfall pasture-based dairy.

This system was the opposite of the low rainfall partial mixed ration (PMR) system they were used to in NSW.

This presented a huge learning curve as both the farms in Tasmania they have worked on are in regions with rainfall in excess of 1100mm/year.

Acutely aware that to be successful farmers in Tasmania would require excellent pasture management skills, they have focused their attention on developing skills in all areas of pasture management.

They have both taken part in the TIA pasture workshops and the follow-up pasture coaching sessions as well as local discussion groups.

Pasture Management

The Edith Creek farm is situated in a high rainfall zone and is almost fully irrigated.

This guarantees excellent pasture growth almost all year and while this ensures plenty of pasture, the Velasquezes say "the challenge is being able to utilise as much pasture a possible during the wetter months, particularly during the spring calving period."

About half the herd is wintered on farm and therefore good pasture management is critical for looking after and maintaining quality pastures and for ensuring adequate herd intake.

Paddock management focuses on quality before quantity. They are grazed between the second to third leaf stage.

Nitrogen use is about 331kg N/ha or 0.9kg nitrogen ha/day.

The grazing rotations are adjusted according to the leaf emergence rates with a pre-grazing pasture cover of about 3000kg DM/ha and target residual of 1600-1700kg DM/ha.

Genaro and Rosselyn Velasquez, Edith Creek.

As a result, the Velasquezes have excellent pasture performance achieving 12.5t DM of pasture consumed per hectare.

Herd Management

Cows are dried off in mid-July and calving begins on August 25.

The aim is to breed and maintain a young, small to medium-size cow weighing about 460 to 470kg live-weight with high components and producing about 1kg milk solids per kilogram of bodyweight. The breeding program comprises four to five weeks of artificial insemination and five to six weeks of paddock mating.

Most cows calve within eight weeks.

Grain feeding amounts are changed according to pasture availability.

Cows are fed 1.25 tonne of concentrate per cow, averaging 4kg per cow per day during lactation.

Focus

The Velasquezes focus on a strong work ethic, communication and attention to detail.

They have a good work ethic and constantly take bigger steps.

They say a good working relationship and sharing goals and values are essential for success.

They do most of the farm work themselves.

While they calved the 470-cow herd almost completely by themselves, with minimal losses, and reared all calves, they emphasise it was only possible by adhering to their own very strict work procedures and systems.

Having a good farm, with a history of good farm hygiene and animal health helps.

They thank farm owners Michael and Cheryl Hughes, and various other farm managers and mentors who have provided support since the Velasquezes arrived in Australia.

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Key points

- ✔ Shelter belts reduce the impact of weather on livestock, pastures and crops
- ✔ Tax break can help boost livestock profits
- ✔ Unshaded dairy cows produced 26 per cent less milk in summer.

By **Andrew Miller**

MOST livestock producers know the recent spike in cattle and sheep prices will lead to more money in their pockets.

But a leading south-west Victorian Landcare facilitator says farmers can also gain a financial advantage - entirely legally - by ploughing some of those profits into an unusual source.

By planting more trees and shrubs in shelterbelts, they would also boost the productivity of livestock, pasture and crops.

That, in turn, would further increase profits.

Basalt to Bay Landcare facilitator Lisette Mill said as farmers made more profit, they might be seeking to reduce their tax liability.

One of the best ways of doing so was by putting in shelterbelts.

"It's a brilliant tax advantage, it's the best-kept secret for primary producers," Ms Mill said.

"Even if you lease the land on which you are a registered primary producer, you can claim the costs on building fencing and maintaining shelterbelts, against your farm tax.

"If you are making a profit, and you want to reduce the tax on that profit by putting it towards something that will ultimately increase your income and reduce climate risk, this is something to get on."

Shelter belts are a line of vegetation of trees and shrubs, designed to reduce the impact of weather, heat or erosion.

"It's a specific Landcare tax stream - it's been around for a while, but it's been poorly promoted," Ms Mill said.

'It allows farmers to make the most of an advantage that's only given to primary producers.

"They can invest in their own property, so that property becomes more profitable."

Ms Mill said the Australian Tax Office was now measuring the take up of the tax incentive.

Phil Keegan, Willatook, is a big fan of shelter belts, saying they had improved productivity on his farm. Picture by Katrina Lovell.

"A lot of farmers often comment about how annoyed they are that their advisers, whoever they may be, have not let them know about this.

"But there is astonishment and relief that they are being encouraged to go away and do something about it.

"They are being encouraged to work the numbers in their budget, or talk with their accountant or bank manager."

Shelter belts reduced the impact of weather on livestock, pastures and crops.

"They know, in their heart of hearts, they have a problem with the weather, and they need to do something about it," Ms Mill said.

Economic benefits

An Economic Benefits of Native Shelterbelts report had shown lamb losses could be reduced by up to 50 per cent, wool production increased by 31pc and stocking rates could be increased by one to three sheep, per hectare.

Cattle gained more weight per unit of feed when sheltered from the heat and cold.

Shelter from wind reduced moisture loss in late spring pastures by up to 10 millimetres.

Pastures sheltered from wind and heat grew 18pc more grass, while windbreaks increased crop yields by about 25pc.

Every dairy cow needed four square metres of shade, at midday, or productivity would drop.

Unshaded dairy cows produced 26pc less milk during summer.

"If you are a beef producer or dairy farmer, you know cattle have trouble cooling off," she said.

"They can handle cool weather, and even cold, driving rain, but when they are calving in hot, humid weather, they really struggle with that."

Cattle could also die from heat overload, in summer, or it could result in calves with smaller udder capacity.

"When you are in the business of breeding cattle, you do not want to produce animals that have a smaller udder capacity - ever.

"If you don't do anything about it, year on year, it's like copying a copy on a photocopier."

The ATO didn't specify what type of species to plant, or to what width.

'Even if you lease the land on which you are a registered primary producer, you can claim the costs on building fencing and maintaining shelterbelts, against your farm tax.'

"If you have a hankering for apple trees and you want your shelter belts to double-dip, in terms of shade and a product, the ATO is not going to come to your farm and say you can only put a line of gum trees because they are native to the area.

"If you want apple trees, put in apple trees, that's the really great thing about this."

There was only one restriction.

"The trees you put around your house are a garden.

"It's like the ATO fire protection preparedness fact sheet.

"People have tried to claim a swimming pool, as a fire protection dam, and it hasn't got up."

Productivity improvements

Phil Keegan, Willatook, Vic, said he had noticed a marked improvement in productivity, once shelter belts were established.

Mr Keegan said he and his wife Helen moved their dairy herd onto the property in 1994 when it had one "little patch of natives" and three or four rows of cypress trees.

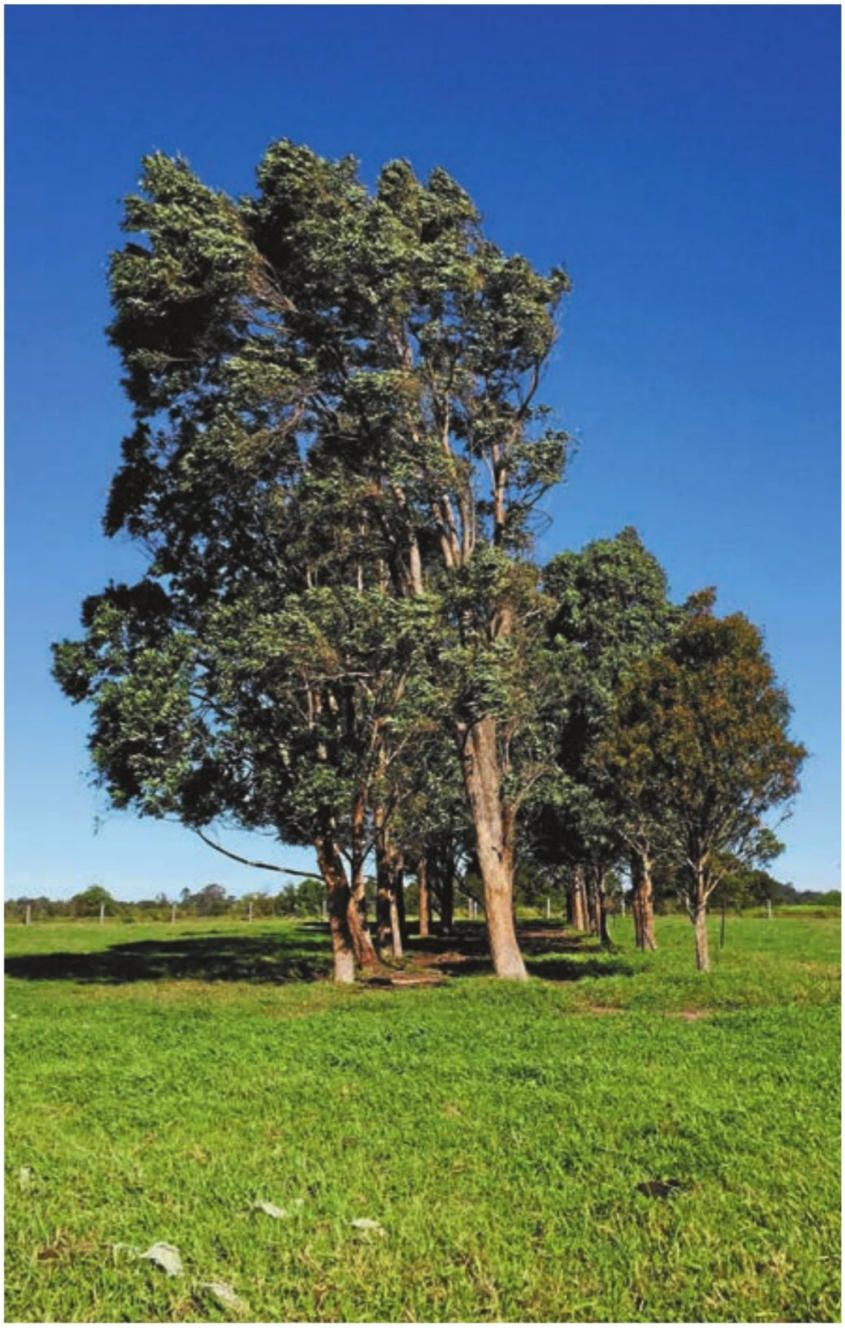
"The cattle had come from a property that had shelter, and we noticed a massive difference, when there was no protection from the south-west winds, in winter, and the sun in summer," Mr Keegan said.

But it was only when he started controlling weeds, and changing his planting methods, that he succeeded in establishing new shelter belts.

"That gave us heaps of confidence and a desire to grow more and more trees," he said.

"Every year after we moved in, we planted trees to give some protection to the cattle, and I believe it gives greater value to the property."

It was hard to quantify the full value of increased production, due to other farming inputs, but Mr Keegan said he had noticed changes.



An example of a native shelter belt.

"What I noticed with the property when we first came here, was that when the cold fronts came through, with wind and hail, the cattle would move to the fence line and stop eating.

"We didn't see the milk production fluctuations, once the trees were established.

"When cattle have the opportunity to get out of the elements, whether cold or heat, they will use that natural protection, every time."

He now runs dairy heifers, on agistment, alongside a small beef herd.

"We are not trying to stop the wind; we are trying to break it and slow it down."

Mr Keegan said he often explained the value of shelter belts, to schoolchildren who visited the farm.

"I ask them 'what do you do when you're cold?' and they say, 'put a jumper on'," he said.

"I tell them I haven't got 200 jumpers for the cows.

"But I have trees, and the tree becomes like a jumper."

Popularity grows for retired dairy meat

Key points

- ✔ Retired dairy cow meat a chef's delight
- ✔ Cows are given a purposeful end to life
- ✔ Jerseys have the propensity to marble well.

By **Lucy Kinbacher**

RETIRED dairy cows whose milk duties have dried up are being used to supply a new beef brand that is gaining popularity with butchers and high-end chefs.

Cull cows that would traditionally be sent to saleyards and processed for ground beef or even pet food are now being given a bigger purpose thanks to Camden, NSW's Luke and Jess Micallef.

The pair established their own Camden Valley Veal and Camden Valley Retired Dairy Meat brands and recently secured their fourth Delicious Produce award in as many years for their quality products.

They currently have about 90 head of dairy cows and calves on leased property and their own 20 hectares, which now features irrigation using recycled effluent treated waste water to grow oats, perennial rye and perennial clover.

As if running a school education program and milking cows commercially in dairies wasn't enough, the Micallefs could see better value in using the milk from their 30 Jersey milkers to grow out vealers rather than sell to factories.

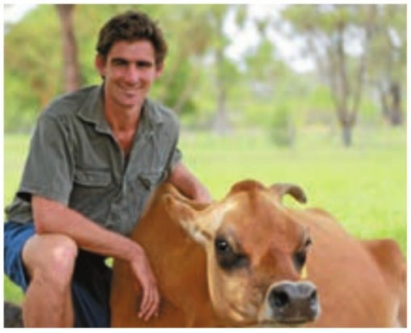
They eventually decided to promote their own brand and now process 150 to 180 bull calves each year turned off at 60 to 80 kilograms dressed; a combination of their own calves and some bought in stock.

That direct relationship with butchers and chefs attracted enquiry about the end market for their cull cows and an opportunity to experiment with processing and dry ageing the meat.

"Now when we have finished milking we turn them out to pasture for 12 months to allow them time to build muscle and fat cover slowly and naturally," Mr Micallef said.

"From there they are then sent in and dry aged for a minimum of four weeks before they are ready to sell."

The retired dairy cows have to be at least six years of age for their meat brand with some reaching up to 12 years.



Luke Micallef.

'A lot of the flavour is in the fat and one thing we have found with the Jersey is they do marble quite well so you get that flavour right through the steak.'

While they started out producing one cow a year, some butchers now have regular orders for a body a month meaning more cull cows are bought in to meet the demand.

Mr Micallef said their customers celebrated the differences in their meat.

"The flavour profile is completely different to a regular steak and being grass-fed their whole life it has got a much deeper flavour to it," he said.

"The fact that it is an animal that's been used it's whole life in a dairy production system and rather than wasting that animal and sending it off as dog food, we are able to value add that product and promote it as a higher standard of meat.

"A lot of the flavour is in the fat and one thing we have found with the Jersey is they do marble quite well so you get that flavour right through the steak."

Chefs like *My Kitchen Rules* judge Colin Fassnidge and also Dan Hong are among those utilising retired dairy cow meat and subsequently encouraging the general public to show an interest too.

"We are not the only ones doing it, everyone is doing it a little bit differently though, so we are just trying to find the right recipe for getting somewhat of a consistent product," he said.

Retired dairy cow meat.

"The chefs have been really supportive of it, they are kind of the driving force behind getting the butchers to take it on but then the chefs they want to know when they plate something for someone that they know what it is going to be like."

Darren O'Rourke, of Vic's Premium Quality Meats and former head butcher of Victor Churchill, labelled Jersey dairy cow beef as the best he had ever tasted in the world.

Having grown in popularity in the last five to six years, butchers were now more accommodating of the product.

While it may cost less than a prime carcase if butchers invested the time in promoting the product there were big gains for everyone.

"There is no question in my mind that it is not only the right thing to do ethically and sustainability it's also some of the best grass-fed beef I've ever had in my life all around the world," he said.

"Jerseys have the propensity to marble really really well and the older they are generally the more marbling you are going to get, the better they have been looked after you are going to see a higher occurrence.

"The jersey has just got something no other breed has in fat colour; they just go fluorescent yellow. The meat colour is different in dairy cattle too, it's almost got a purple tinge to it."

The Jersey cows dress at about 275 kilograms, sometimes up to 350kg, and not only is the meat type different for butchers but they have to adapt to handling bigger forequarters and the like.

Making money out of maize silage

Key points

- ✔ Spiralling electricity costs and an increasingly drier climate made maize a safe bet
- ✔ Shift to maize silage required a large investment in machinery, inputs and expertise
- ✔ Agronomists used to ensure the investment paid off.

By **Marian Macdonald**

GIPPSLAND, Victoria, dairy farmer Greg Peddle is only two years into growing maize but he's into it in a big way.

His very first 95-hectare crop produced 6500 wet tonnes of silage and 4000t of that went to drought-stricken local farmers and others around Sale, about 65 kilometres north-east of his Yarram property.

The Peddles sowed, grew and harvested the lot themselves, requiring a large investment in machinery, inputs and expertise.

But, says Mr Peddle, spiralling electricity costs and an increasingly drier climate made it a safe bet.

His farm is split by the South Gippsland Highway, with the dairy occupying 260ha on the northern side and another 360ha running young stock and growing fodder on the south.

The long-term average annual rainfall is around 600 millimetres but Mr Peddle said it sat well below that now, probably at around 500mm.

So, aside from 56ha on the dairy platform, the entire property is irrigated and receives about 3.5 megalitres a hectare annually.

"The main driver [to grow maize] was power prices, the cost of running irrigation," he said.

"We couldn't afford to just grow pasture because it takes about a megalitre of water to grow a tonne of dry matter with grass.

"But with maize production, we can grow 5t of dry matter for 1ML of water."

That's not to say Mr Peddle and wife Kim don't grow plenty of grass.

Their average pasture consumption sits at around 17tDM/ha and Mr Peddle said maize silage complemented a largely pasture-based diet very well.

"Maize silage works best when you've got green feed to go with it," he said.

Greg Peddle says his Yarram dairy farm's average pasture consumption sits at around 17tDM/ha and maize silage complemented a largely pasture-based diet.

"It's not that high in protein, so having green feed all the time means the cows have got good protein levels in their diet anyway."

The 800 milkers have LIC Holstein genetics, producing an average 700 kilograms of milk solids a year each.

"We're strictly black and white," Mr Peddle said.

"As far as I'm concerned, a Jersey's close to a Labrador and a Labrador's for leading the blind."

They're each fed an average annual 1.8t of supplements in the bail and the Peddles kept a close eye on components.

"Maize silage is actually a big benefit at the moment because the likes of Fonterra have a butterfat to protein ratio now of about 1.4, so it's getting close to one for one and butterfat's going to be worth as much as protein shortly," he said.

"When you feed maize silage, you increase your butterfat component by 25 basis points straight up, so it's quite profitable feeding maize silage."

The business case for growing maize on the turnout half of the farm was strong and the Peddles did not hesitate to invest accordingly.

Greg Peddle's 950M Z wheel loader is set up to shift massive quantities of maize silage at his Yarram dairy farm.

Mr Peddle, who ran a large contracting business for about 20 years and does all the farm's annual pasture renovation and hay and silage harvesting, already had an impressive array of high-powered equipment but more was needed.

For their first maize season, the Peddles bought a secondhand planter and a maize front for their existing forage harvester, bringing the added investment to "probably a couple hundred thousand".

The forage harvester measures the moisture levels, protein, energy and starch levels in real time, adjusting inoculant rates accordingly.

The result is feed that's been quality controlled all the way through the process.

"We also use the fodder so we know what works and what doesn't," Mr Peddle said.

"The hay and silage we sell is priced on the upper end of things but the quality is always at the upper end of things.

"We don't sell any poor quality hay or silage."

And, to give certainty to fodder buyers, there was a new 21-metre-long weighbridge.

"We know the dry matter content and then we sell it per wet tonne and you certainly don't get any complaints from the people that purchase," Mr Peddle said.

But it didn't stop at the initial equipment; the inputs are extremely high.

"To give you an idea, we bought a brand new planter this last season and it was worth about $100,000," Mr Peddle said.

"We had two pallets of seed in the back of the shed and the guy who came down to get the planter going said, 'Just a matter for interest, what's the seed worth?'

"I said, 'Well, those two pallets of seed are worth more than half that planter'.

"I think fertiliser in the first season on 95 acres was about $180,000 and then you've got to do your cultivation and everything else.

"Just the inoculant that we used when we harvested was around about $40,000 plus alone."

Acknowledging he "didn't know anything" about growing maize before, Mr Peddle had engaged two agronomists to ensure the investment paid off.

"I was never anxious," he said.

"I'm reasonably confident in my abilities."We irrigated and we had all the agronomy right on the other side, so we pretty much couldn't get it wrong."

And, in the first year, the maize crop averaged 26 tonnes a hectare and Mr Peddle set his sights on a 30t yield for this season.

It only yielded about 19t/ha, which he put down to a lack of sunlight coupled with wet conditions.

"The district was hit pretty hard," he said.

"They didn't grow the tonnes further down south where they're that wet they can't harvest it and then, after that, you can't put another crop in, so it has a flow-on effect."

The Peddles would normally sow pasture straight after each maize crop but, this year, while they had been able to sow ryegrass under one pivot following the maize, it had become too wet under the next, which will now be planted with oats.

The tricky season had reinforced Mr Peddle's preference to keep the crop work in-house.

"Timing's so critical," he said.

"This year is a classic because we finished harvesting on the Saturday and, on Sunday, the silage was covered and then it started to rain on the Tuesday and everything was flooded.

'The hay and silage we sell is priced on the upper end of things but the quality is always at the upper end of things. We don't sell any poor quality hay or silage.'

"Having our own equipment was crucial."

Those wet conditions had also dampened demand for fodder but Mr Peddle was undeterred.

"Sometimes we might not sell much fodder for two years but, in the area we farm in, you'll sell all your fodder at least once every three years," he said.

"You've just got to be big enough to be able to store it."

Rain gives hay supplies a boost

Key points

- ✔ Hay prices have dropped as much as 50 per cent
- ✔ Price declines reflect widespread and timely rainfall in eastern states
- ✔ Autumn is traditionally a quieter time for hay markets.

HAY prices in dairy regions have dropped as much as 50 per cent from the same time last year, according to statistics from the Australian Fodder Industry Association (AFIA).

And the supply of hay is expected to outpace demand this coming year, thanks to improved seasonal conditions throughout most of eastern Australia and larger hay crop plantings.

Cereal hay delivered to Victoria's Goulburn Valley averaged $410 a tonne at the end of May last year, at the end of May this year it was $205/tonne.

In south-east South Australia, cereal hay was trading at $285/tonne at the end of May, down 22pc from a year ago and down 33pc off last year's peak in June 2019 of $425/tonne.

Prices for cereal hay delivered to the Bega Valley in NSW – one of the few regions still looking for good rainfall - was $375/tonne at the end of May, $75/tonne cheaper than the same time last year.

May 2020 Bega Valley cereal hay prices were 21pc less than January 2020 prices, when bushfires struck the south coast of NSW.

These price declines reflect widespread and timely rainfall throughout the eastern states, which has slowed demand for fodder.

AFIA chief executive officer John McKew said the rain provided a much-needed reprieve for the Australian domestic hay industry.

"The rains and subsequent pasture and crop growth have relieved the pressure on both sides of the hay market," he said.

"Before the rains, AFIA had forecast the country could run out of hay by the end of autumn.

"I'm pleased we were wrong in this case.

"The constant flow of hay trucks from Victoria and south-east South Australia to Queensland and NSW has slowed to a trickle.

The supply of hay is expected to outpace demand this coming year.

'Generally, comments across the board say that throughout the eastern states, they have never seen conditions as good for sowing or crop establishment.'

"Livestock now have pasture to graze and there's agistment available due to low national flock and herd numbers."

With little demand and movement of hay throughout Australia, it can be difficult to get an accurate price gauge.

AFIA relies on its network of hay growers, traders and customers who help track hay, straw and silage prices for its Hay Report supplied to Dairy Australia.

Mr McKew said late autumn was traditionally a quieter time for hay markets, with trade picking-up slightly into the colder months.

A slower market gives the fodder industry a chance to access future feed requirements and prepare for a more "traditional" supply and demand season, he said.

Attention has now shifted to restocking fodder supplies with many Queensland contractors racing mother nature during autumn to make the most of drying forage sorghum.

Mr McKew said most AFIA members indicated they would use this season to refill hay sheds and silage pits with excess expected to hit the market.

He said AFIA always recommended buyers of fodder conduct feed testing and view it before purchase to be sure of the quality of the feed.

Looking ahead, favourable growing conditions and a lot more land planted to crops should provide plenty of tradable fodder this year.

AFIA board member and Mallee farmer David Cossar said the recent booming hay market had prompted larger plantings of oats in his region.

"The massive hay market during the last two to three years was created because of widespread drought," he said.

"I've never sold hay higher than central NSW before, I doubt I will ever again in my lifetime either.

"But that hay demand has slowed and with extra plantings this year there could be a glut of cereal hay."

Frank McRae is an agronomist and farmer based near Orange in NSW, he's also the AFIA chairman.

"Generally, comments across the board say that throughout the eastern states, they have never seen conditions as good for sowing or crop establishment," he said.

"I think there will be a lot of late oats sown, by those who have destocked, and a lot of it will be made into hay to replenish on-farm storage.

"After that, there will probably be some available on the market."

Vetch hay plantings were also expanding each year, according to Mr McRae as more dairy farmers looked to this as a source of protein in preference to lucerne. D

View AFIA'S hay report at https://www.dairyaustralia.com.au/industry/farm-inputs-and-costs/hay-and-grain-report-overview

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Managing baled hay around rain events

Key points

- ✔ Stack small square bales into triangular stooks
- ✔ When the rain clears, pull the square bales stack apart
- ✔ Large squares should be baled at less than 14 per cent moisture.

By **Frank Mickan, former pasture and fodder conservations specialist, DEDJTR, Ellinbank Centre**

RAINFALL and inclement weather can be a nightmare for many areas of Australia during the hay making period, affecting either mown or baled crops.

Although on many occasions nothing can be done to avoid the situation, there are some techniques, albeit labourious ones, which can be very effective in reducing the amount of moisture soaking into your precious hay.

If you do end up with rain on your square bales, or is likely to occur before you are able to get them into a hayshed, the following suggestions may be of use to you.

Rain is forecast but you won't be able to get freshly baled hay shedded before it arrives

Small square bales, although not applicable to many farmers these days, could be stacked into triangular stooks, using two techniques.

Firstly, stand the bales on their ends in groups of four so that they resemble an inverted 'V' shape (see Figure 1).

Place another bale on its edge in the 'V' to help shed the rain.

The uncut side of the bales should be facing up since it tends to shed the water more effectively.

An alternative is to stand two bales on their ends into an inverted 'V' and then lean two more also on their ends at right angles to the other two so that the group resemble an "Indian Teepee."

This will shed much rain but may tend to keep the top inner edged moister as the rain will run into the centre of the "Indian Teepee" where the bales touch at top.

Another technique is to stook bales horizontally (see Figure 2).

The first two bales are laid on their edge and leant against each other so that they touch only on their top corners.

Small bales stood on their ends.

Bales stacked on their edges.

A third bale is then laid on top in the 'V' shaped area formed by the first two bales, the uncut side facing upwards.

These techniques usually require at least two people to make the job easier and faster.

Stacking large square bales to shed rain is not an easy job but well worth the effort.

Use whatever piece of equipment will do the job to stand the bales on their ends.

Be careful not to cut or weaken the strings if using something like a front end loader bucket.

This will shed most rain (Figure 3) and the bales will dry much quicker once the rain has passed.

Another alternative can be to stack large square in whatever size stack is practical and safe around the paddock(s).

Stacks can vary from groups two to three bales high to small stack sizes.

For some of the stacks which may be of reasonable size, if time and tarps or plastic were available, could be used as temporary covers but need to be well tied/weighted.

At least some of the hay will be protected from the rain entering the stack tops, bale surfaces and between the bales themselves.

If unprotected stacks of bales receive very heavy rainfalls, as often has occurred over recent years, a lot of moisture soaks down between the bales and has led to spontaneous combustion, i.e. haystack fires.

'It is particularly hard to gauge the internal dryness of wet round bales that have been left in the paddock for several weeks so be ultra careful if they are eventually shedded.'

Remember the protective sheet should be a temporary fix only as the bales, if stacked within hours or even days after baling, will still generally need to continue to cure, and even more so if baled slightly on the wet side.

Even hay baled at the correct moisture content will still cure down to the reach an equilibrium moisture content of about 15 per cent moisture.

The moisture given off in this process is what causes the 'sweating' of hay.

Once confident the rain has passed, remove the cover to allow this moisture to evaporate off and prevent it building up under the sheet.

Although the outer edges of the stack will become wet, their internals should remain relatively dry, unless the rainfall event is gentle and persistent.

A heavy downpour is far less damaging than a long, continual drizzle.

If only a light shower is expected (and who knows?) then the increased density of the large squares will prevent excessive water ingress and it may be possible to leave them where they lie.

Round bales, if tightly baled and net-wrapped, will shed much of the rain.

USA Wisconsin research has measured dry matter losses of 11.3 per cent with string tied bales compared to 7.3 per cent for net-wrapped bales.

Bales made early in the season will have a high digestibility due to their leafiness and high content of sugars and, if rained on, dry matter and quality losses can be severe.

They should be shedded as soon as possible or stacked and covered with plastic to prevent large losses.

More than 50 per cent of the weight of a two metres diameter round bale of hay is in the outer 30cm so anything to reduce wastage of round bale hay stored outside will be very beneficial.

Stacking them tightly end to end will protect the vulnerable flat ends of the bales.

What to do after the rain with hay bales that have become wet?

When the rain finally clears, pull the square bales stack apart to allow the outside bales to start drying.

After ensuring the internal bales are completely dry stack them into the shed.

Spontaneous combustion can sometimes occur from only a small section of one bale containing too much moisture.

Depending on where they are wet, bales may need to be flipped over for a few hours drying before shedding.

This may be easier said than done in a wet season!

If unsure as to whether the bales are safe to be shedded after rain, should be stacked to allow air movement through, around and over the top of the stack.

These bales will sweat and heat and encouraging air circulation will allow the heat and moist air to escape.

Alternatively, if shed space permits, or an empty equipment shed is available, stack the wettest bales over the largest area possible, placing the driest bales in the hay shed.

If you do not have sufficient area under cover to spread them out, and if you feel you must stack them in the shed, try to put something, such as two 4x2s between each layer of bales to allow heat to escape.

If the weather turns hot, leave the wetter bales outside to dry out but if the weather looks like turning nasty again, and you don't have spare shed space to spread out the very wet bales, either leave them outside (safest choice) or put the wetter bales on top of the dry shedded bales (less safe and monitor them for extreme heating.

If large squares are baled too wet i.e. not cured enough, their larger denser nature does not allow them to "breathe" and will heat substantially even without the added moisture from rain.

This will occur if baled at over 15 to 18pc moisture content and ideally, should be baled at less than 14pc moisture.

Most hay fires occur in large square bale stacks for this reason.

Large bale stood on its end.

'Bales made early in the season will have a high digestibility due to their leafiness and high content of sugars and, if rained on, dry matter and quality losses can be severe.'

It is particularly hard to gauge the internal dryness of wet round bales which have been left in the paddock for several weeks so be ultra careful if they are eventually shedded.

All bales in the above situations will be much damper than desirable, even after a period of drying, so carefully monitor the shedded stack for several weeks watching for signs of dangerous heating.

Be aware that bales sitting on damp paddocks, in puddles, or caught in rivulets of water or floods, are also a potential cause of spontaneous combustion.

For more information, visit agriculture.vic.gov.au

Hay shed building boom

Key points

- ✔ Victorian hay shed construction has surged
- ✔ Record prices have encouraged hay production and now it is flowing through to on-farm investment
- ✔ The rise in hay shed sales is good news for the fodder industry.

VICTORIAN hay shed construction has surged off-the-back of a record 2019 fodder harvest.

Growers in the southern Mallee and Wimmera regions are leading the charge, all wanting to invest in infrastructure to protect the quality of their hay.

Sales of hay sheds are on track to double this season for Entegra, one of the Wimmera and Mallee's largest shed construction businesses.

Since the beginning of this year, Entegra has sold 65 per cent of the total number of hay sheds it sold in 2019.

Hay shed construction is the fastest growing business category for Entegra, which manufactures all types of agricultural and industry sheds.

"A lot of farmers had so much hay at the end of harvest that it was stacked-up to 10 bales high in the paddocks," said Entegra General Manager Laurie McCalman.

"This has been an incredible turnaround in a region which had gone through severe drought and then a flood during the 2018 harvest.

"This past season, record prices encouraged hay production and now it is flowing through to on-farm investment."

Warracknabeal grower Travis Penny recently purchased a new hay shed.

"Hay's an important part of our operation now and if you're going to go to the expense of doing hay, you've got to store it well," he said.

"The market price fluctuates and with our latest hay shed, we'll be able to better maintain the (quality of our hay) and have more options."

Pre-engineered structural hay sheds (kits) which can store from 1000 to 2500 have been the most popular locally, due to the large volumes of hay produced, according to Laurie McCalman.

"Farmers want their sheds installed faster and thanks to the introduction of the kits, this has been possible," he said.

"Thanks to the hay shed kits, we were able to install a record number of sheds before they were needed for vital hay storage."

Customised hay sheds have also been popular with growers.

Mr McCalman said some sheds, up to 7.5 metres high, were constructed because farmers have the machinery to stack bales at that level and it's also cost effective.

"For example, if you increase the height of a 2500 bale shed from 6m to 7.5m you can store at least an additional 300 bales of hay," he said.

"So, we've just introduced the 2800 bale hay shed for this season."

Australian Fodder Industry Association (AFIA) chief executive officer John McKew said the rise in hay shed sales was good news for the industry.

Customised hay sheds have been popular with growers, on the back of a record 2019 fodder harvest.

'A well-constructed shed adds value to stored fodder and this provides a quality and consistent product for our customers.'

"A well-constructed shed adds value to stored fodder and this provides a quality and consistent product for our customers," he said.

For more information about hay shed construction, visit www.entegra.com.au/how-to-store-a-bale-of-hay/ or www.afia.org.au/files/Fodder_Brief_-_Fodder_Storage_and_Hay_Sheds.pdf

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When to cut for whole-crop cereal silage

Key points

- ✔ Forage cereals can be ensiled either as a cut and wilted crop or direct cut and ensiled
- ✔ Grain enters "dough" stage when no milky liquid remains
- ✔ Forage cereals in the vegetative-boot stages of growth have high buffering capacities.

By **Frank Mickan, former pasture and fodder conservations specialist, DEDJTR, Ellinbank Centre**

ENSILING forage cereals as whole-crop cereal silage (WCS) can be referred to as green chop silage, fermented whole-crop or small grains silage.

Forage cereals can be ensiled (fermented) either as a cut and wilted crop or direct cut and ensiled.

When to cut forage cereals for silage

Timing of harvest should consider the following:

- End use of the silage ie. for animal production vs. maintenance rations
- Weather conditions at harvest
- Soil types and soil moisture conditions at harvest
- If spring sowing, when the follow up pasture is to be sown
- If double cropping, when the follow-up crop needs to be sown
- Availability of suitable harvesting machinery
- Affect on dry matter yield

Cereals can be harvested at two stages: Flag leaf/boot - early ear emergence stages and soft dough stage.

Flag leaf/boot - early ear emergence stage

The flag leaf, usually a wider leaf than most to date, is the last leaf to appear before the ear or head starts to emerge.

The flag leaf sheath contains the "boot", a swelling in the sheath, from which the ear will emerge.

Once the ear has emerged (see Figure 1), flowering or anthesis commences, beginning from the middle of the head and spreads upwards and downwards.

The plant has vegetative leaves up to this stage.

All cereals can be harvested before or at this stage, producing high energy silage (over 10 MJ ME) but will have lower yields compared to their potential if harvested in the grain formation stages.

If a silage of high nutritive value is required they should be harvested at the vegetative stage although they will need to be wilted to the recommended dry matter contents (see Table 1) before harvesting or baling.

Research to date indicates that although yield does increase substantially with crop maturity, there is generally a decrease in energy and protein and an increase in fibre levels.

The drop in nutritive value is greatest in oats and ryecorn compared to the other cereals (barley, wheat and triticale).

After flowering the grain begins to form.

As the grain develops it goes through a clear liquid phase which is prior to the commencement of starch deposition.

The grain then enters the "milky" stages, described as early, medium and late milk.

Figure 1. Growth stages: Early, mid, late and full ear emergence.

Note: It is recommended that whole-crop cereals should not be harvested for silage at the clear liquid - early milk stages.

At this stage the soluble sugars in the plant are being converted into starch in the heads.

The nutritive value at this stage is often reduced but importantly, palatability of silage made at this stage is sometimes greatly reduced.

Soft dough stage

As the plant reaches maturity, sugars in the stems and leaves are translocated to the grain and converted to starch.

These changes are associated with changes in colour from an allgreen plant in the vegetative stages to an all-yellow plant in the fully mature plant at the hard grain stage.

As the grains themselves form and mature they pass through the clear liquid stage, then become milky, followed by soft and hard dough stages (see Figure 2) and finally to hard dough and eventually as a dry grain suitable for grain harvesting.

The recommended time to harvest forage cereals is at the soft dough stage.

This later harvesting results in much higher DM yields but of slightly lower energy and much lower crude protein levels than at the vegetative stage.

Plant neutral detergent fibre (NDF) levels will also be higher at this stage of cutting along with lower calcium and sodium levels.

Mixtures of cereals and legumes (peas, vetches) such as oats and maple type peas are perceived to increase the protein levels of the silage.

This may be so in some situations but seeding rate, species selection, seasonal effects, etc. greatly affect the outcome.

The time to harvest a mixed cereal/leguminous crop is usually based on the maturity of the cereal component (soft dough) and whether lodging is imminent.

However, if the legume component of the crop mixture is greater than about 40 to 50 per cent, the dry matter (DM) content of the crop at cutting may be lower than if it was a cereal crop only, necessitating the crop to be wilted before harvesting (see Table 1).

Wilting is also necessary to increase the concentration of the relatively low levels of water soluble carbohydrates in the legumes to ensure a satisfactory fermentation.

Effect of DM on silage quality

If forage cereals are harvested below the recommended DM levels (see Table 1), the material undergoes a less efficient and less desirable fermentation.

This causes some loss of nutritive value, may result in some effluent production and produces a less palatable silage, all of which will reduce animal production to varying degrees.

There are several management implications to consider when deciding on the timing of cut for forage cereals.

However, if harvested above the recommended DM levels for the various stages of growth and method of harvesting, excess air will be trapped at ensiling.

This results in higher losses of DM and nutritive value due to a prolonged aerobic phase of the fermentation process and increased microbial and yeast activity.

Large numbers of mould and yeast spores will be produced and enter a "dormant" state until the stack is reopened, or the plastic seal is holed.

Upon opening or puncturing, air enters more deeply into the poorly compacted stack compared to one well compacted.

This air results in aerobic spoilage, a result of the dormant mould spores and yeasts becoming reactivated and rapidly increase in number to consume the energy and cause protein break down of the silage.

Heating and mould growth will rapidly occur.

Figure 2. Cereal grain at soft dough stage.

This also leads to high losses of quality and dry matter during the feed out phase, resulting in reduced animal production.

Determining when to harvest forage cereals

Determining when to harvest WCS can be very difficult and is compounded by the variation in the rate of maturing due to weather conditions and cultivar variations.

The timing of cutting is often based on either DM content or stage of growth.

DM content

The recommended dry matter contents at which to harvest forage cereals varies widely between experts, the majority agreeing to the range of 33 to 50pc DM (see Table 1).

The DM content in whole-crop cereals can be determined by using the microwave oven technique for estimating DM levels and/or using the stage of growth as a guide.

Species	Stage of growth at harvest			
	Flag leaf-Boot/early ear emergence		Soft dough	
	Stack/pit[1]	Baled[2]	Stack/pit[1]	Baled[2]
Oats	33 - 40	38 - 50	NR	NR
Ryecorn	33 - 40	38 - 50	NR	NR
Triticale	33 - 40	38 - 50	35 - 42	38 - 45[3]
Barley	33 - 40	38 - 50	35 - 42	38 - 45[3]
Wheat	33 - 40	38 - 50	35 - 42	38 - 45[3]
Oats/Peas	33 - 40	38 - 50	NR	NR
Barley/Peas	33 - 40	38 - 50	35 - 42	38 - 45[3]

NR Not recommended

[1] Should be precision chopped

[2] Preferably baled with chopper baler

[3] Lower DM at hatvest suggested to ensm-e greater compaction

Table 1. Target DM content and stage of growth at harvest for ensiling forage cereals.

Microwave oven technique for estimating DM content

A representative sample from a range of windrows or standing crop is required.

Whole plants are collected and then chopped into lengths of 40 to 70mm and thoroughly mixed before sub-sampling for microwave oven drying. Thorough mixing and sub-sampling is critical to obtain a true representative sample due to the variation in DM contents in the leaves, stems and heads, particularly in the grain formation stages.

In these latter stages the grains will be at varying stages of maturity, affecting grain:stem ratios and will impact on the DM content and quality parameters of the final product.

The dry weight is obtained by drying the sample in a microwave oven.

The DM content (percentage) is then calculated by dividing the final dry weight by the initial wet weight and multiplying by 100.

Stage of growth

As forage cereals mature, the physiological state of the plant changes, along with an increase in DM content of the plant.

Depending on the final use of the silage, cereal crops can be cut at two stages of growth: Flag leaf/boot - early ear emergence or soft dough stage.

Flag leaf/boot - early ear emergence stage

The plants will be vegetative up to this stage with the stems still very succulent and of high nutritive value (see Figures 1 and 2).

The DM content will usually be well below 30pc DM, thus requiring wilting to the recommended contents before harvesting (see Table 1).

Soft dough stage

The grain enters the "dough" stage when no milky liquid remains (see Figure 2).

The dough stages are described as early (milky dough), soft (cheesy dough, similar to brie cheese) or hard dough, just before the grain is harvest ripe.

The grains may reach the hard dough stage within days after soft dough if the weather is hot and dry, or several weeks in cool moist conditions.

There are differences between species also.

The ideal harvest window for barley may be as short as three to four days and for wheat, triticale and oats, seven to 10 days.

The DM content should be slightly higher for baling than for forage harvested WCS to ensure a favourable (lactic acid) fermentation (see Table 1).

Practical implications of time of harvest

There are several management implications to consider when deciding on the timing of cut for forage cereals.

Two of these are:

- Whether wilting is possible
- Implications on other farming activities

Whether wilting is possible

Forage cereals in the vegetative-boot stages of growth have high buffering capacities, ie. they are "reluctant" to produce desirable levels of lactic acid for a successful silage fermentation.

This problem can be overcome by wilting the mown crop to over 33pc DM.

However this is difficult when cutting very heavy cereal crops, especially since autumn/winter sown crops will be reaching these stages in late September/early October.

Also in early – mid spring, in the dairying areas of south eastern Australia, the weather is rarely hot, often being warm only, often cloudy, and sometimes even foggy.

This leads to reduced rates of wilting and some loss in nutritive value if harvesting does not occur within one to two days.

The use of tyned typed mower conditioners will be an advantage to increase the wilting rate and even better if the windrows are left as wide as possible.

However watch for the loss of grain heads if conditioning is set too aggressively.

Tedders can be utilised to spread the crop immediately after mowing but set the tynes to avoid "picking up" soil while operating.

Unfortunately, in heavy crops, both types of equipment will have difficulty in operating to full effect.

Implications on other farming activities

An often forgotten factor influencing when to harvest is the implications of harvest time on other farming activities.

This is mainly related to the weather implications for follow up crops or pastures such as the ability to prepare paddocks for sowing and weed control if taken off early.

Harvesting later in the soft dough stage may result in a lack of soil moisture or miss out on follow up rains for the follow up crops.

Spring sown forage cereals, if rains are likely in December/early January, may be a possibility in some dairying areas.

For more information, visit http://agriculture.vic.gov.au/

White sorghum success in subtropics

Key points

- ✔ Grain sorghum investigated as an alternative silage option
- ✔ Sorghum grain is very high in starch
- ✔ Study uncovers white grain sorghum silage's superior physical attributes.

The Rozynski Family from the Mary Valley, Queensland, standing in their crop of Liberty White Grain Sorghum.

By Ross Warren and Jo Gorman, Queensland DAF extension officers

AS PART of the Queensland Department of Agriculture and Fisheries C4Milk dairy project, grain sorghum has been investigated as an alternative silage option to corn and forage sorghum silage crops.

Although corn silage is a staple forage in high producing herd diets and can deliver superior margin over feed costs, its yields, quality, cost and overall risk can be significantly affected by nutrient, water and climatic variants.

As irrigation supply remains uncertain and seasonal variability increases, Queensland farmers are now considering grain sorghum for silage and not just as a grain crop.

Although some regard sorghum as an inferior starch source, Queensland DAF scientists and dairy farmers are now capitalising on it's hardy drought tolerant characteristics, where it requires less overall inputs and demonstrates a high grain to forage ratio when harvested as silage, as compared to corn and forage sorghum.

Sorghum as a milled grain has always been used by dairy farmers in Queensland (less so as a silage option), however many struggle to achieve higher milk production due to its poorer digestive characteristics than corn or other white grains.

While sorghum grain is very high in starch (ranging between 62 per cent and 66pc), the outer coating of the grain together with the starch:protein matrix within the grain prevents all of the starch from being digested and absorbed by the animal.

As part of a PhD exploring heat treatment options of sorghum grain to improve its digestibility, Queensland DAF research scientists recognised a white grain variety 'Liberty' that showed superior starch concentrations and digestibility compared to red grain sorghums.

Since the initial research in 2015 on 'popping the sorghum grain', work has continued on the white grain variety analysing harvesting options such as headlage and silage as well as ensiling duration and their impacts on starch degradability and milk response.

Under trial conditions and on-farm, white grain sorghum (grown under semi-irrigated conditions) has repeatedly shown to be comparable to corn and forage sorghum in yield (when cut twice) and quality, but can be produced at a much lower cost than corn and is far more resilient with unpredictable weather patterns.

To assess its applicability and relevance to subtropical dairy feeding systems, large-scale irrigated demonstration plots of white grain sorghum were grown at the University of Queensland Gatton Campus and harvested as silage and headlage (Anstis, 2015). ▶

'Under trial conditions and on-farm, white grain sorghum has repeatedly shown to be comparable to corn and forage sorghum in yield and quality.'

White grain variety 'Liberty' has shown superior starch concentrations and digestibility compared to red grain sorghums.

The white sorghum silage crop was a high quality crop (10.8 MJ ME/kg DM; 33pc starch; 41.1pc NDF) yielding 12.3 tonnes a DM/ha from the first cut at $44/t as-fed including harvesting and storage costs ($126/t DM).

When planted early in the season and allowed to ratoon, two cuts of silage yielded a total of 19.2t DM/ha, and up to three cuts have been reported if planted early in spring with favourable conditions.

Feeding trials further demonstrated that when fed as the primary forage in a partial mixed ration (7kg DM headlage; 9.3kg DM silage) and total mixed ration (7kg DM headlage; 5.7kg DM silage) system, margin over feed cost was 37pc higher than the reported industry benchmark average (Murphy, 2016).

When considering the inclusion of white grain sorghum silage in a PMR diet compared to that of corn or forage sorghum, a recent study has further uncovered its superior physical attributes and their impact on pasture intake.

In a replicated animal feeding experiment carried out in 2019 (Ison et al, unpublished), white grain sorghum silage was shown to have the lowest 24h NDF digestibility and the highest indigestible NDF compared to corn and forage sorghum silage.

However, cows consuming this PMR diet tended to have higher pasture and total intakes with the inclusion of white sorghum silage than corn or forage sorghum.

The white sorghum silage had the lowest mincing energy, which indicates that this diet required less chewing and ruminating to reduce particle size, likely leading to increased passage rate and consequently higher intakes.

Although not significant, these results indicate that estimating accurate intakes within PMR systems from chemical forage characteristics alone, is likely to be inadequate.

Milk production responses are yet to be analysed, however on initial observations, there appears to be no impact on milk response, but margin over feed cost is likely to be higher due to lower diet costs with the white sorghum silage.

Although corn is often regarded as the "Rolls Royce" of silages for its ability to produce high yields and excellent quality, reports from producers over the last few seasons in the region have described tougher conditions, lower yields and lower quality crops.

In the Mary Valley located outside of Gympie on the Sunshine Coast, a corn and white sorghum crop both harvested in March 2020 were compared with several points emerging.

The corn yielded 15.85t DM/ha, with the white sorghum yielding 13.69t DM/ha from the first cut and the ratooning crop grazed at a utilisation of 3 to 3.5t DM/ha.

When considering starch (on a DM basis), the corn did yield more than the white sorghum at 24pc compared to 20.2pc based on the sorghums first cut, however, if the second graze (harvest) of sorghum was included, the white sorghum's yield and quality would be superior to that of the corn crop.

Further, when considering cost and risk based on the single harvests, corn was costed at $174/t DM and sorghum at $120/t DM (excluding labour) with all other expenses accounted for.

Additionally, another white sorghum silage crop in the Mary Valley reported 24.1pc starch and 22.5t DM/ha from two cuts demonstrating comparable quality to the corn.

Had the corn crop yielded in excess of 17t DM/ha with a starch percentage of more than 30 per cent, then the economics of the corn improves dramatically, yet second and third cuts from sorghum further improve its attractive low cost of production and superior margin over feed cost.

In conjunction with Queensland DAF's ongoing research, farmers are recognising that corn is becoming a higher risk crop to grow and can prove to be very expensive when compared to white grain sorghum silage under adverse, low water availability or high water cost situations.

As farmers become increasingly analytical about their farm resources and forage water use efficiency and resilience, white grain sorghum has become a popular consideration in summer planting plans in the subtropics.

Trials of a farmer-scientist

By **Ee Cheng Ooi***

Key points

- ✔ Researching topics can find alternative possibilities for disease
- ✔ Experimental trials can be worse than no trial at all
- ✔ Let's talk about chance, uncertainty, bias, and placebo.

SCIENCE is an incredibly useful tool to help us answer the burning questions that keep us awake at night.

For dairy scientists, a question might be something like, 'How effective is this drug at treating viral pneumonia?'

We usually start off with some preconceived idea about the answer, like, 'Many animals with the disease died from massive lung inflammation, so if we give them a drug that stifles the immune system, it will increase their chances of survival.' The fancy word for these explanatory ideas is 'hypotheses'.

However, we're also aware that we might be completely wrong about this (otherwise, why are we researching the topic in the first place?).

There can be alternative possibilities, like, 'The animal's immune system is preventing the infection from spiralling out of control, so if we give them this drug, their likelihood of dying will actually increase' or it could be something completely out of left field, like 'The action of this drug interacts with symptoms of the disease to produce a third, utterly unexpected side effect like sudden heart failure'.

So, it's really important that we test our hypotheses by running experiments and collecting data. We have to be critical of our ideas, which is easier said than done. It's more fun to be critical of other people's ideas and then to feel wounded and defensive when the same is applied to us (yes, scientists are people too!). But sadly, until we collect the data, it's all just guessing - no matter how neat the hypothesis may be, or how much we want something to be true.

'We have to be critical of our ideas, which is easier said than done.'

Working as a dairy vet, I used to run into farmer-scientists all the time. Farmer-scientists are living proof that you don't need a scientific degree to have a burning passion for science. They're keen observers with questions that are begging to be answered, like, 'If I feed this expensive supplement, will it actually improve my cow's fertility?' or 'If I give them another PG shot, will I achieve a better conception rate?' or 'If I use this vaccine, will I get less pinkeye in my calves this year?'

Farmer-scientists know that you can't just make up explanations for things and expect them to always be right. They recognise that humans are fantastic at finding patterns and logical connections, even when they may not actually be there. And, unlike regular research scientists, farmer-scientists happen to have the opportunity to run experiments on an everyday basis, with their own test subjects and treatments at their disposal – so why wouldn't they try things and see what works?

Unfortunately, one challenge for farmer-scientists is that they lack experimental assistants. Universities have entire departments of people whose job it is to make sure that your study design makes sense, or to do the statistical analysis, or to bounce ideas off. This is unfortunate because it's easy to make mistakes which can invalidate your results. I remember, as a research student, being forced to abandon experimental data because of poor study design. Knowing that you've thrown a year of your life away on something that you didn't think through properly is about as bad as having a calf die on you just after giving it its last bag of fluids.

So, for the next few articles, I want to talk, scientist to scientist, about some of the principles of study design. Let's talk about chance, uncertainty, bias, and placebo. These can be really difficult concepts to grasp - even for people whose entire job relies on understanding these topics.

Farmer-scientists are keen observers.

But they're the key to running better on-farm trials and to get the answers that we're looking for - so hey, let's tackle them here.

Most on-farm projects I've seen have been 'experimental trials', which compare what happens before and after you introduce an intervention or treatment. This makes sense - if you're going to do something that will take more work or to buy a product which costs a lot of money, you want to know if it's going to work for your farm.

However, an experimental trial which is not designed appropriately can be worse than no trial at all. This is because we can come to conclusions which are not supported by the data – but we might feel a lot of confidence about the results. This can lead us to make expensive but inappropriate choices, or to get really confused when brilliant outcomes in one year become mediocre in the next one. Sometimes uncertainty is appropriate. Sometimes confidence is not our friend.

So, our first cow in the race will focus on ways of setting control groups for your on-farm trial. Stay tuned and join us next month as we cover subject selection, randomisation, and how to make fairer comparisons between experimental groups. D

**Ee Cheng Ooi is a cattle veterinarian undertaking a PhD at Agribio in dairy fertility and genetics.* *All comments and information discussed in this article are intended to be of a general nature only. Please consult the farm's vet for herd health advice, protocols and/or treatments that are tailored to a herd's particular needs.*

DataGene
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A breeding insight that computes

Key points

- ✔ DataVat allows farmers access to customised reports and tools
- ✔ Reports are based on their herd and business records
- ✔ The "herd snap-shot" caused one farmer to rethink his breeding philosophy.treatment

EUGENE Rea's approach to breeding dairy cows changed with the click of a button.

Well, perhaps to be more specific, it was the downloading of a report – but that all began with tapping the computer mouse.

Eugene and his wife Chantelle milk 300 registered Holsteins, under the prefix of Childers Cove, across 150 hectares in south-west Victoria.

The Mepunga dairy farmer started using the new dairy industry herd improvement and breeding website, DataVat, earlier this year.

DataVat is a web portal that allows farmers access to customised reports and tools based on their own herd and business records.

A Holstein enthusiast, Eugene was looking forward to viewing all the information of his 300-head herd.

He called it a "herd snap-shot".

What he didn't expect was to rethink his breeding philosophy.

"It was quite obvious on the Genetic Futures Report that the cows in our top 25 per cent for BPI [Balanced Performance Index] were producing 66kg more milk solids and their calving intervals were 33 days less than those in the bottom 25pct," he said.

"It's pretty obvious those cows are the profitable ones. You suspect that, but to see the actual figure – comparing the top 25pc to the bottom 25pc – I guess the proof was just there."

Eugene's breeding philosophy had concentrated on type, but more recently he started looking for bulls that enabled him to breed for this and health traits.

"We don't show, but we've imported some embryos into the herd from high type pedigrees, that's where my interest lies, and trying to breed a cow with good confirmation certainly helps her longevity," he said.

"The longer we can keep them in the herd the more they make, but the other side of that is if they are not going to get in calf, they are not going to stay in the herd. It is trying to find that balance."

The Genetic Futures Report for Eugene Rea's herd showed the cows in the top 25 per cent for Balanced Performance Index produced 66kg more milk solids and their calving intervals were 33 days less than those in the bottom 25pct.

Building on the strong foundation from the imported embryos, Eugene will use Australian Breeding Values (ABV) and BPI ranking as another tool when selecting his bull team.

"I can see now that, by looking at these figures, that the proof is there," he said. "The BPI is a profitable index."

An early DataVat adopter, Eugene mostly analysed reports about his herd, concentrating on the individual cow breeding information.

When it comes to selecting bulls, he anticipates spending a few hours using DataVat to filter bulls best suited to his breeding goals. Daughter fertility, feed saved and reducing the herd's average stature will be his main priorities. The need for these improvements was confirmed by the information generated by the Genetic Futures Report.

"Type, longevity and mastitis resistance were well above average," Eugene said. "Fertility was below average, and our fat and protein were about average but heading-up at a fairly sharp level. I think the last couple of years we have probably turned things around a bit for type and production but fertility hasn't improved so much."

'I can see now that, by looking at these figures, that the proof is there.'

Eugene and his wife Chantelle milk 300 registered Holsteins, under the Childers Cove prefix, across 150ha in south west Victoria. With an average weight of about 600kg, the herd's diet includes pasture and grain, while during winter it's supplemented with corn silage grown at the Reas' outpaddock.

Average production is about 9100 litres/cow/lactation or 640kgMS/cow/lactation.

Eugene expects the Genetic Futures Report will help improve his knowledge about individual cows in his herd, how his herd ranks compared to others and the bulls suited to his operation.

"You can see what bulls have worked in the herd because it ranks your top cows, you see what bulls have worked, those which are continually throwing animals up the top of the list," he said. "Conversely, it goes the other way too, which ones aren't working."

Eugene's been investigating individual cows and discovering what makes up their BPI but has enjoyed comparing his herd to the rest of the database.

"The Genetic Futures Report gives you a herd level base of many different traits from production through all management traits and every type trait as well," he said. "Because we classify every animal as well, we have a lot of information at our fingertips now to make breeding decisions."

Looking ahead, Eugene would like to explore genomic testing as a way to generate more data about his herd and increase the reliability of the information.

"DataVat has changed our thinking about breeding and what the profitable cows are," he said. D

For more information, visit www.datavat.com.au or contact DataGene on 03 9032 7191 or abv@datagene.com.au

June situation and outlook report

By **Sofia Omstedt, Senior analyst Dairy Australia**

Key points

- ✔ Improved seasonal conditions and confidence have resulted in a significant recovery in Australia's milk pool
- ✔ Dairy Australia's initial forecast for the 2020-21 season anticipates a modest rebound in milk production, up between 1pc and 3pc
- ✔ The COVID-19 outbreak has led to significant change in consumer purchasing behaviour with implications on demand.

WHAT a difference a year makes. The turnaround in 2019-20 seasonal conditions is well under way for some areas; for others it is still tentative.

Either way, a strong autumn break and buoyant outlook for grain and fodder production signal the likelihood of lower input costs in the months ahead.

In stark contrast, the June *Situation and Outlook report* reveals how social and economic dynamics have been disrupted by the outbreak of COVID-19 and resulting restrictions implemented to curb the pandemic. This broader turmoil has impacted commodity markets, including dairy, and poses continued risks for the months ahead.

Some things are looking increasingly positive heading into the new season.

With an early break and wet weather forecast for many regions, demand for purchased feed has dampened, resulting in hay prices easing, especially in Victoria and South Australia. Rain across much of NSW and Queensland broke the drought in some regions and saw hay prices decrease.

Tasmania received good amounts of rain over late summer and autumn; however, fodder prices remain high due to lower fodder availability.

In comparison, a dry start to the year in Western Australia has kept hay prices elevated and is weighing on the overall feed production outlook for the region.

With more manageable input costs, favourable seasonal conditions and a relatively strong farmgate milk prices this season, overall industry confidence has improved.

According to data from the National Dairy Farmer Survey, conducted in February, 44 per cent of farmers were reportedly positive about the industry's future, up 10pc from last year.

Better conditions and improved confidence have resulted in a significant recovery in Australia's milk pool.

National milk production has increased year-on-year for the past five months to April.

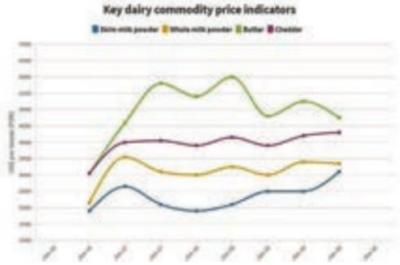
Given the extent and persistence of this turnaround, Dairy Australia has moderated its milk production outlook for 2019-20, to indicate a drop of between 1pc and 3pc, compared with 2018-19. This would equate to an annual total of between 8.5 and 8.7 billion litres.

As seasonal conditions have continued to rally, Dairy Australia's initial forecast for the 2020-21 season anticipates a modest rebound in milk production, up between 1pc and 3pc.

While circumstances on-farm have continued to improve, the COVID-19 outbreak has upset global markets, with flow-on effects in Australia.

The virus has led to significant change in consumer purchasing behaviour with implications on demand for dairy both domestically and internationally.

Internationally, the spread of COVID-19 slowed exports to China, upset global markets and saw commodity prices drop. While the initial panic that followed the outbreak has begun to settle, global dairy demand remains under pressure.



Key dairy price commodity indicators.

Ongoing restrictions have seen demand ease, particularly from overseas food service sectors and price-sensitive markets.

The outbreak of COVID-19 has exacerbated the impact of growing milk supply on global markets.

The drop in demand, combined with an increase in supply, has amplified the need to redirect products.

The resulting supply chain disruptions saw milk dumped in the northern hemisphere but increased export competition in key overseas markets.

Government interventions and commercially-driven measures were launched to counter this imbalance in the US and EU; however, global milk supply is likely to keep downward pressure on commodity values heading into 2020-21.

Australia is not immune to the growing headwinds facing global markets.

The still escalating economic fallout of the crisis is expected to generate reverberations and reduce consumers' purchasing power in key markets, amid unresolved trade disputes.

Following the introduction of the new Mandatory Code of Conduct, minimum pricing announcements occurred on June 1.

While exceeding some earlier expectations, for most farmers current indicated milk prices will represent a decrease compared with the 2019-20 season.

Favourable weather forecasts bode well, especially if translated to improved feed availability at decreasing prices.

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