The Australian Dairyfarmer

JANUARY
FEBRUARY
2020

DAIRY PLAN

Draft sets plan for industry turnaround

HERD HEALTH

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The Australian Dairyfarmer

Vol 35, No.1 JANUARY-FEBRUARY 2020

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OUR COVER

The Suna family in Tasmania made a big investment in robotic milking and it has paid dividends including in attracting their son Dayne back onto the farm.

Read their story page 82.

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Setting your own course

WE have a couple of ripper stories in this issue that go to the heart of getting the next generation involved in dairy farming.

The first starting on page 16 is about the Mountain Milk Co-operative, based in the Kiewa Valley in north-east Victoria.

It's one of those stories that makes you want to get up and do something about anything you think is a problem.

A group of farmers in this region recognised that they had a major problem — they were relatively geographically isolated and reliant on one milk processor to get their product to market. That was OK when things were going well with that processor but it was a major risk.

So with the help of a government grant, they set about exploring what their options might be to regain control of their farming futures.

From there grew their modern co-op that now supplies three quite different processors in the region.

But the other beautiful thing about this story is the values that underpin the co-op and its relationships with the three processors who buy their milk.

"We're amazingly proud of how we farm and where we farm and the quality of the product that we produce. We should be enjoying the real value of that," is how co-op chair Stuart Crosthwaite sums it up.

The co-op story in some ways is reflected in Stuart's own story of coming back on to his family farm 15 years ago and through a robust succession plan being able to grow the business.

The development of the co-op and sorting out the culture that they wanted for it has also helped his business.

"For Sarah and I, the whole journey of putting co-op together, and I think for most of the other farmers involved, it has been really refreshing being out of the farmer-processor arrangement, having a little bit more control and a little bit more of a say in what happens to our milk and what we get for it, and how we find more value through the co-op," he says.

And he has taken the process of building the co-op back to his own business, incorporating values such as respect, confidentiality, diligence, teamwork and communication.

"A lot of people would look at values as a bit of fluff but it's pretty powerful stuff," he says.

'It's one of those stories that makes you want to get up and do something about anything you think is a problem.'

Another family that's taken a brave step to help bring the next generation back on to the farm is the Suna family in Tasmania.

Their story on page 82 is about their decision to install robots as the older generation faced the physical challenges of working in the dairy without the prospect of the younger generation coming back on to the farm.

Their decision paid dividends when their son Dayne, who wasn't interested in milking cows through the herringbone system, was interested in the technology and mechanics of the robot system and joined the family business. Dayne's the smiling lad featured on the front page — and clearly loves his job.

It's truly inspirational stuff.

As the industry looks to implement the dairy plan and set a course for its future, it could take a leaf out of the book of these farming families who have looked to the future and set their own course.

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The Australian Dairyfarmer

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Dairy code vital step for farmers

Key points

- ✔ Mandatory code of conduct released
- ✔ Revised to meet farmer concerns
- ✔ Retrospective milk price step downs banned

By **David Inall**
ADF CEO

IF there is one thing the dairy industry can agree on, it's the feeling of paralysis that has existed since the milk price step-downs in 2016.

Trust along the dairy supply chain was significantly damaged by those events and persistent tension has permeated the relationship between farmers and processors ever since.

It really underscored the need for the dairy industry to implement a code of conduct to govern the contractual arrangements between farmers and processors, especially when the Australian Competition and Consumer Commission determined that farmers suffered from a lack of bargaining power in that relationship.

Now the Federal Government has released a mandatory code for the industry, which is already in force as of January 1, giving farmers vital protections when negotiating milk supply agreements with their processors.

The code is a major coup for federal agriculture minister Bridget McKenzie, who was able to reverse the criticism that was heaped on the government's exposure draft and gain the support of all state dairy farmer organisations, many of whom stood beside her last December as she unveiled the final product.

Under the new code, retrospective milk price step-downs are banned, a dispute resolution process has been introduced, and processors cannot withhold loyalty payments from a farmer who switches processor or make exclusive supply arrangements with farmers in combination with either two-tier pricing (where the second tier is less) or volumetric limits.

The code also stops processors from making unilateral changes to milk supply agreements, except under specific circumstances — when complying with legislative changes, which cannot reduce the minimum milk price or in certain exceptional cases which could reduce the minimum price paid to farmers. In the latter circumstance, the processor must notify the competition watchdog and farmers, who must be allowed to terminate their milk supply agreements if they wish.

The Dairy Mandatory Code of Conduct is a major coup for federal agriculture minister Bridget McKenzie. Photo: Alex Ellinghausen

'While the mandatory code will not be responsible for setting the farmgate milk price, it will go some way to improving the bargaining power of farmers...'

All processors must also publicly release a Standard Form Agreement on June 1 each year, covering the terms of milk supply and a price (or prices) that cover the terms of the agreement.

The ACCC, which last year recommended the dairy industry transition from a voluntary to a mandatory code, has been tasked with monitoring and enforcing compliance with the code, consistent with its duties under other industry codes of conduct, including such as the horticulture code.

While the mandatory code will not be responsible for setting the farmgate milk price, it will go some way to improving the bargaining power of farmers and professionalising contract management in the industry.

It has been a long and difficult journey to get to this point. ADF, initially working through industry body the Australian Dairy Industry Council, was intimately involved in the development of the code of conduct.

ADF constructed the industry's original voluntary code in 2017 before preparing draft clauses for a potential mandatory code, much of which was used by the Government to develop the final code of conduct.

Every effort must be made to ensure that farmers are protected in their contractual negotiations and to avoid a repeat of the 2016 milk price step-downs.

The ACCC, in its report into the dairy industry last year, identified that farmers lacked bargaining power when negotiating contracts.

The mandatory code is an important step in improving transparency and setting minimum standards of conduct in milk supply agreements. D

How to help the dairy industry

Key points

- ✔ Many people committed to helping the dairy industry
- ✔ Reregulation a simplistic solution that won't address issues
- ✔ Best first step would be rise in prices at supermarket

By Terry Richardson, ADF president

Senator Pauline Hanson has initiated another Senate inquiry into the dairy industry, specifically looking at issues since deregulation of the industry. Photo: Alex Ellinghausen

EVERYONE wants to help the dairy industry. Throughout the last year, discussion of measures to help dairy farmers battling difficult climatic conditions and farmgate prices that don't meet the cost of production became a regular feature of federal parliament.

Your national advocacy organisation Australian Dairy Farmers often fielded calls from concerned members of the public asking how they could help dairy farmers.

Media wanted to shine a spotlight on the plight of dairy farmers during tough times.

All of this speaks to the respect Australians hold for dairy farmers. We now have an Australian Dairy Plan to help guide the priorities of the industry over the next several years, a mandatory code of conduct to improve transparency in the relationship between farmers and processors, and a federal Senate inquiry into the profitability of dairy farmers since the industry was deregulated.

The last point is key. An inquiry into the effects of deregulation is clearly constructed with a view to reregulating the dairy industry. But it would be foolish to think that any problems that exist in the industry would be solved purely by flicking the regulatory switch.

The profitability of dairy farmers has been impacted by a number of factors in the past 20 years.

For instance, processors have moved to change payment systems to encourage all year-round production rather than traditional grass-based seasonal milk production systems commonly practised in southern Australia.

Drought and other climate issues such as higher summer temperatures have impacted grass growth and cow management.

Farmers have endured rising costs of production, while supermarkets continue to sell heavily discounted private label dairy products, which has stripped value out of the dairy supply chain. Think $1-a-litre milk.

The industry suffered from an international dairy price downturn and further price reductions due to milk price step-downs late in the 2015-16 season.

And despite this Senate investigation into the performance of dairy farmers over the past 20 years, these issues are not new. In fact, the dairy industry has endured no fewer than 10 reviews over the past decade, led by both parliament and industry.

Not one of those reviews recommended a floor price as a solution to issues around pricing, costs or performance of the dairy industry. Indeed, introducing any form of price control, such as a floor price, will likely distort the market and undermine Australia's international trade obligations.

While it might appear an obvious solution to institute a minimum farmgate price to safeguard farmers, there is no single silver bullet to restoring profitability into the dairy industry. But the government would do well to start implementing some of the recommendations from the previous reviews and inquiries.

It is also clear that a strategic review of pricing and national competition policy is sorely needed.

Key among this initiative should be an amendment to the Food and Grocery Code to establish a set of principles that introduces market-led regional pricing for all dairy products on retail shelves, establishes appropriate value distribution along the supply chain to dairy farmers, and enshrines the Australian Competition and Consumer Commission's "dairy specialist" role as a position of oversight and to advocate on behalf of dairy farmers.

Of course, this will all take time. A review of the Food and Grocery Code has only recently been completed. So what can we do in the meantime? Here is where supermarkets play a vital role. We already saw last year the major supermarkets willing to raise the price of their $1-a-litre milk brands by 10 cents per litre in order to give farmers a slightly better margin for their hard work. Consumers appeared happy to support the initiative.

As a temporary measure and until a proper mechanism is in place to ensure appropriate distribution of value along the supply chain, supermarkets should increase the price of their discount milk to $1.50-a-litre, with the increase going back to farmers via their processors.

The Australian dairy industry last year had a value of $9.2 billion. We produce nearly nine billion litres of milk and employ 46,200 people across the industry.

It is in our national interest to maintain a profitable dairy sector. And people want to help.

Service award for Western Australian

Key points

- ✔ WA farmer recognised with outstanding service award
- ✔ Long-standing role representing industry at national level
- ✔ Successful farm business

WESTERN Australian dairy farmer David Partridge announced as recipient of 2019 Pat Rowley Award for Outstanding Service

He has had a long and illustrious career spanning 50 years, including stints leading committees of both the Australian Dairy Farmers Federation and National Farmers Federation, and now industry veteran David Partridge can add one more commendation to his mantle.

The Western Australian farmer received the Pat Rowley Award for Outstanding Service at the annual Australian Dairy Industry Council (ADIC) leaders breakfast last November.

Mr Partridge said he did not deserve the award, admonishing his son Michael, WA Farmers dairy council president, for cajoling him to attend the breakfast "because I thought he was going to do something interesting".

"What I quickly realised as a Western Australian farmer back then was that the action was happening in Melbourne and Canberra when it came to dairy policy," he said.

"I started on one board and it grew from there."

Mr Partridge's public contribution to the dairy industry began in 1969, when he stood for the board of his local co-operative. From there he represented the dairy industry in many state organisations and as a national agriculture representative.

In WA, during the mid-seventies, he was involved in environmental protection activities, which helped ensure the continuation of the Wellington dam as a source of irrigation water. This, despite local opposition, was an early demonstration of the leadership he was to show throughout his public career.

In 1977 he joined the Australian Dairy Farmers Federation as a state representative for WA and in 1979 joined the newly formed National Farmers' Federation as the ADFF's dairy industry representative. This was a unique position as other members of the NFF board were usually either the president or chair of their respective organisations.

ADIC outstanding service award winner David Partridge (centre) with his wife Elizabeth and outgoing ADC director Simone Jolliffe at the ADIC breakfast where Mr Partridge received the award.

'What I quickly realised as a Western Australian farmer back then was that the action was happening in Melbourne and Canberra when it came to dairy policy.'

In 1981 he was elected chair of the NFF's Economic Committee, a position he held until his retirement from the NFF in 1990, where he helped lead the policy and advocacy debate to benefit farmers through the economic reforms of the Hawke Government.

As a board member of the Primary Industry Bank of Australia in the 1980s, one of his key initiatives was the establishment of "interest-only" loans to ensure farmers could remain viable by reducing the need to make capital reductions during this period of high interest rates.

In 1986 he was appointed to the Australian Dairy Corporation and for the next decade was heavily involved in the activities of industry organisations in South-East Asia and the Middle East.

In 2000 the WA Government called on Mr Partridge's experience to help manage the state's dairy industry following deregulation.

For his outstanding service to the dairy — and wider agricultural — industries, Mr Partridge also received an Order of Australia medal.

Inside the farmgate, his hard work and skilful management has built a successful farm business. His White Rocks dairy farm milks 600 cows a year and raises around 1000 calves. White Rocks veal is recognised nationally and internationally and is sought after by chefs in the finest restaurants.

The Pat Rowley Award, presented by then-ADIC and Australian Dairy Farmers director Simone Jolliffe, honours individuals who have, through their leadership, dedication and commitment, made an outstanding contribution to the Australian dairy industry.

"The dairy industry is fortunate to have many men and women of outstanding talent and ability, who are prepared to lend their experience, knowledge, and personal skills for the benefit of Australian dairy," Ms Jolliffe said.

"It is an honour to present the award to David Partridge. His name is a worthy addition to the Pat Rowley Award winners."

ACCC dairy committee meets

Key points

- ✔ ACCC Dairy Consultative Committee meets for first time
- ✔ Includes 19 members from all states
- ✔ Key role in helping implement mandatory code of conduct

THE Australian Competition and Consumer Commission's Dairy Consultative Committee, which met for the first time in December, has 19 members.

The Dairy Consultative Committee will provide a forum for dairy industry representatives across farming, processing and retailing to discuss issues about

An ACCC spokesperson said it would use the committee to:

- Work with industry to develop and implement effective education and compliance strategies that will enable market participants to understand their rights and obligations and comply with the Mandatory Dairy Code of Conduct.
- Collaboratively consider concerns related to the implementation of the code and how those concerns might be addressed.

The large committee will be chaired by former Australian Dairy Farmers president Noel Campbell and members include:

- John Elferink, South Australian Dairyfarmers Association.
- John Versteden, ADF.
- Janine Waller, Australian Dairy Products Federation.
- Charlie McElhone, Dairy Australia.
- Gary Kerr, Farmer Power.
- Ashlee Hammond, United Dairyfarmers of Victoria.
- Ben James, Aurora Dairies (formerly Warakirri Dairies).
- John Mulvany, farm consultant.
- Sylvia Vagg.
- Michael Partridge, WA Farmers Federation.
- Shaughn Morgan, Dairy Connect.
- Ian Zandstra, NSW Dairy Industry Advocate.
- Robert Miller, NSW Farmers.
- Eric Danzi, Queensland Dairyfarmers' Organisation.
- Geoff Farnsworth.
- Tony Burnett, Dairy Farmers Milk Cooperative.
- Scott Briggs, Australian Milk Price Initiative.
- Karrinjeet Singh-Mahil.

Not all of these members will be officially representing their organisations. "Members that represent an organisation or peak body, are expected to work with the ACCC to bring about the industry's compliance with the code, rather than advocate for their organisation's broader policy position," the committee's terms of reference states.

Committee meetings will be held quarterly across multiple ACCC offices via video link for about 12 months and members will not be paid.

Mr Campbell will be supported by ACCC deputy chair Mick Keogh and the ACCC dairy specialist in the role.

The committee will meet quarterly for a period of about 12 months — with the term able to be extended by the ACCC if required.

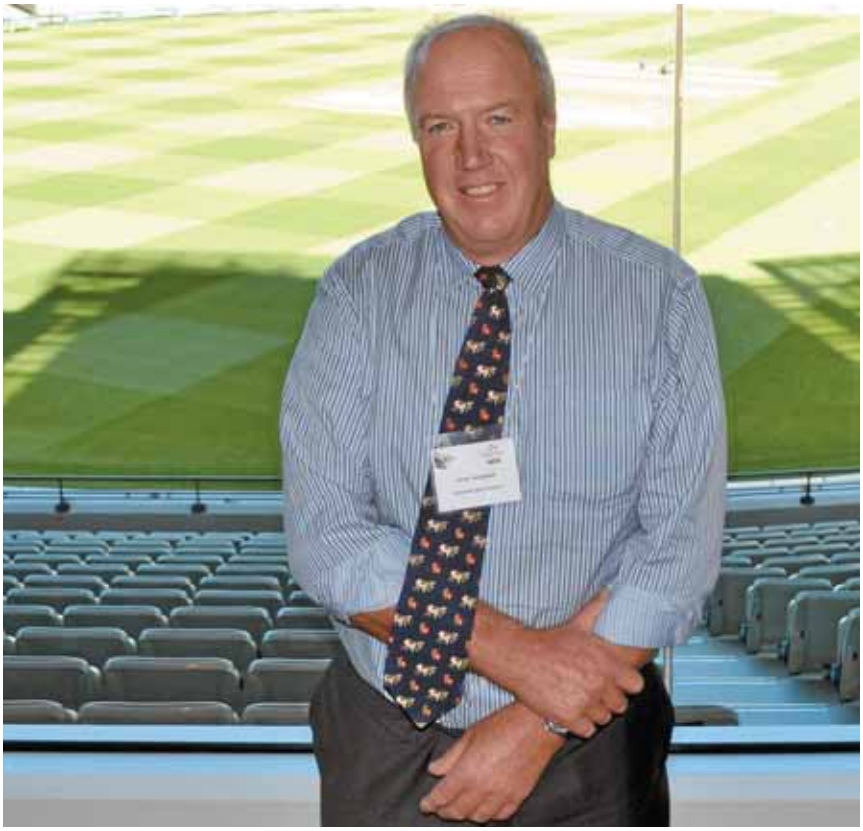
When the committee was announced in August, ADF welcomed its establishment.

ADF president Terry Richardson commended Minister for Agriculture Bridget McKenzie for acting quickly on the government's election promises to the industry.

Mr Richardson said the new committee must be given the power to test all claims relating to the mandatory code.

"We believe the committee should focus on the code of conduct and other matters that fall under the remit of the ACCC," he said. "This includes acting on all complaints that are brought forward.

"The ACCC uses a public benefit test to determine which claims it pursues, but in our view this threshold is likely too high for many of the claims potentially breaching the code." D



The large ACCC Dairy Consultative Committee will be chaired by former Australian Dairy Farmers president Noel Campbell.

'We believe the committee should focus on the code of conduct and other matters that fall under the remit of the ACCC.'

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Australian Dairy Plan

Draft sets plan for industry turnaround

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

Key points

- ✔ Draft plan sets out agreed vision for success, commitments and initiatives
- ✔ Targets five areas for transformational change
- ✔ Final plan to be published in March 2020

THE draft Australian Dairy Plan released at the beginning of December is the first time that key dairy organisations representing the whole industry supply chain have come together to form a single national plan with an agreed vision for success, commitments and initiatives.

The plan is built on the distillation of countless hours of engagement with people across the industry and the views and opinions of more than 1500 who took part in a nationwide consultation process — one of the largest listening exercises in the history of the industry.

Our dairy industry has endured a perfect storm of challenges in recent years, with unprecedented market and climate volatility. The development of the Dairy Plan has allowed the whole dairy supply chain to regroup around a common set of priorities and objectives.

Feedback is being sought on the draft Australian Dairy Plan released in December.

The document sets out a range of industry-wide initiatives to restore confidence, lift profitability and stimulate growth. On the basis of modest growth projections, the Dairy Plan will support about 1 billion litres of additional national milk production annually by 2025, worth over $600 million per annum to dairy farmers. This additional growth will stimulate the creation of at least 1000 direct new jobs, mostly in rural and regional areas.

The draft plan also focuses on initiatives to help farmers better manage the increased cost of key inputs like feed, water and energy to support the profitability of their dairy businesses.

The extensive nationwide consultation exercise allowed us to identify common themes and five commitments for transformational change:

- reform of industry structures and advocacy;
- attracting and supporting new entrants and investment to build industry capacity;
- increased effort in marketing and promotion;
- a greater focus on farm business skills to improve profitability and risk management; and
- Initiatives to restore trust and transparency between farmers, processors and retailers.

'The document sets out a range of industry-wide initiatives to restore confidence, lift profitability and stimulate growth.'

Alongside areas for improvement, the Dairy Plan also highlights a number of fundamental activities are currently being well supported and that must continue to evolve:

- sustainability;
- policy leadership;
- research development and extension; and
- market development.

We have also recognised that an industry-wide shift in how the industry thinks and talks about itself, and how it does business is one of the most important actions of the Dairy Plan. A final version of the Australian Dairy Plan will be published in March 2020. It will include the recommendations of the Joint Transition Team on reform of industry structure and advocacy arrangements, which will be released for feedback in January 2020. We welcome your views on how the draft can be enhanced and details on the feedback process are available via the Australian Dairy Plan website <www.dairyplan.com.au>.

Key commitments and initiatives

KEY commitments and initiatives of the draft Australian Dairy Plan:

- An historic reset of how farmers and processors work together to provide greater transparency and consolidated information regarding farm milk prices, as well as the establishment of a Milk Price Monitor.
- New measures to drive a step change in on-farm business and risk management by ensuring that by 2025, 100 per cent of dairy farms will have completed effective business plans.
- A renewed focus on attracting new people and investment to build industry capacity and growth.
- A major ramp up of industry marketing and promotion to build greater levels of trust with consumers and improve the value of dairy products.
- A heightened focus on industry fundamentals to accelerate progress in innovation, market development, policy leadership and sustainability.
- A more unified and strategic approach to collaborating with government on initiatives to stimulate growth, reduce costs and remove barriers, in line with the Federal Government's 2030 goal of $100 billion in farmgate agriculture output. This includes working with government on initiatives that can be supported by the annual $100 million Future Drought Fund.

Farmer groups welcome mandatory code

Key points

- ✔ Mandatory code of conduct starts January 1
- ✔ Farmer organisation feedback incorporated
- ✔ Unilateral changes by processors strictly limited

By **Marian Macdonald**

The Agriculture Minister Bridget McKenzie releases the code with representatives from farmer representative organisations.

THE Mandatory Dairy Code of Conduct released in December has been greeted with almost universal approval from farmer bodies but the processors are not so sure.

Australian Dairy Farmers (ADF), United Dairyfarmers of Victoria (UDV), NSW Farmers, South Australian Dairyfarmers' Association (SADA), Queensland Dairyfarmers' Organisation (QDO) and Dairy Connect were all pleased with the new code.

The Australian Dairy Products Federation (ADPF), which represents processors, released a statement of concern. "We are currently working through the details of the code that was released today and will be looking to understand how to best support our members deliver on the tight deadlines as stipulated," it said in a statement.

"We have some initial concerns regarding the changes made from the exposure draft to the final version, and any unintended consequences there may be for both dairy farmers and processors."

Agriculture Minister Bridget McKenzie said the final code was different from the draft that was consulted on and was now a stronger, clearer document that delivered the protections it should for dairy farmers.

"In line with feedback received from dairy farmers, the code prohibits retrospective pricing step downs," she said. "It also prevents unilateral changes except in a narrowly defined set of emergency circumstances; it stops processors withholding loyalty payments from farmers who are changing processor; and it prohibits exclusive supply arrangements where other conditions would be to the detriment of dairy farmers.

"It also establishes a dispute resolution process, increases the powers of the Australian Competition and Consumer Commission and introduces civil penalties."

Processors can only unilaterally vary milk supply agreements in two circumstances. The first is a change in law with which the processor or farmer must comply and, even then, those variations can only reflect the legal changes and cannot result in a decrease of minimum price in an agreement.

In the second case, a processor may be permitted to step-down the price in an "exceptional circumstance". When that happens, the processor must advise the ACCC of its intention, provide farmers 30 days' notice and give farmers permission to terminate the agreement. Examples of exceptional circumstances include the sudden closure of an export market or a biosecurity emergency.

January 1 start date

From January 1, 2020, all new agreements must comply with the code, while agreements already in place have 12 months to become code-compliant. Processors need to publish standard forms of agreement annually by June 1 on their websites.

All standard forms of agreement must contain minimum prices, justification of prices and a cooling-off period of 14 days. All processors need to offer non-exclusive supply agreements but can offer an exclusive agreement with terms similar to the non-exclusive agreement. The prices for exclusive and non-exclusive milk supply do not have to be the same.

Contracts must include a clear minimum price, a schedule of monthly prices or a schedule of yearly prices for longer-term agreements (and the price among years can be different). There must be a a clear start and end date for the milk supply period, unless the processor is a co-operative.

Quantities only need to be included if applicable but quality requirements of milk, including sampling procedures and assurances about volume accuracy need to detail when the processor may reject milk supplied by the farmer and what will be done with the milk.

When longer than three years, an agreement must allow farmers to postpone its end by 12 months so those who wish to exit the industry to resolve their business, sell assets and address any animal welfare and environmental concerns.

ACCC welcomes code

The ACCC welcomed the announcement of the introduction of the code, which was a key recommendation of the ACCC's 2018 dairy inquiry, which found significant imbalances in bargaining power at each level of the dairy supply chain.

"Our dairy inquiry identified that imbalances in bargaining power between processors and farmers has allowed processors to transfer much of their risk onto farmers," ACCC deputy chair Mick Keogh said. "We also identified a lack of transparency in contract and pricing practices, limiting the ability of farmers to compare offers from different processors and hence reducing competition. We concluded that a mandatory code was the best way to

address these systemic industry problems, so we are pleased to see that this has become reality."

ADF praises government

Australian Dairy Farmers chief executive David Inall thanked the federal government for listening to the concerns raised after the release of the exposure draft code of conduct.

"The final code of conduct addresses our concerns and provides important protections for farmers when negotiating milk supply agreements with their processors," Mr Inall said.

"While the mandatory code will not be responsible for setting the farmgate milk price, it will go some way to improving the bargaining power of farmers and professionalising contract management in the industry."

UDV lauds outcome

United Dairyfarmers of Victoria (UDV) manager Ashlee Hammond said the outcome was achieved with the solidarity of the state dairy farming organisations (SDFOs) and Australian Dairy Farmers (ADF).

The UDV was pleased with the adjustment to penalties. Penalty units have changed, so there are 100 penalty units for farmers and 300 for processors.

Ms Hammond was pleased to see the term "beyond reasonable control" that allowed unilateral variations by processors in the draft banished from the code.

The opportunity to adjust the code was also welcome. "And also, keep in mind, if this clause isn't working for the Victorian dairy industry, there's a chance to review the code at the 12-month mark and the four-year mark," Ms Hammond said.

The requirement for processors to offer non-exclusive as well as exclusive supply agreements would be beneficial for farmers.

NSW Farmers asks for more

NSW Farmers' Dairy Committee chair Colin Thompson said the mandatory code was crucial for enhancing dairy farmers' bargaining power with processors. "The commitment to outlaw retrospective step downs and greatly restrict unilateral variations is a huge positive for farmers," Mr Thompson said. It was still important to act on the impact the retail sector was having on the industry.

"The irrational pricing of retailers has reduced the money available in the supply chain," Mr Thompson said. "It has placed pressure throughout the chain and this results in farmers' milk price being squeezed."

South Australia sees progress

SADA policy officer John Elferink said the code would help to protect farmers, even though it was not intended to set prices for milk.

"What it will do is create an environment in which the processor must approach the negotiations in good faith and, on top of that, all of the elements of the contract must be clear to the farmer before signing the contract," Mr Elferink said.

Mr Elferink said the dispute resolution process was also far more useful for farmers.

"Farmers and processors talk first," he said. "If they can't resolve it, then there's mediation, which is really nice and cheap and then there's the option of arbitration, where both sides agree to put it in front of a referee who is not a court and they agree to abide by their call. These are much more expedient and cheaper outcomes than court cases."

QDO wants retailers included

QDO marketing and communications manager Sarah Ferguson said the code showed government had listened to farmers but it would need to be carefully reviewed.

"The fresh milk market is different and the key things we were concerned about were exclusivity clauses and how they handle pricing on multi-year contracts,: she said. "How can you predict a price in 12 months' time?"

She said the average farmgate milk price in in Queensland had risen from 57 cents a litre a year ago and was now around 69 to 70c/l, while a "sustainable and fair" farmgate milk price needed to be 73 to 78c/l.

"The one thing — we've said it constantly and we know we're not going to get any relief on it — we are still disappointed in the fact that the retailers have got off scot-free in the mandatory code."

Dairy Connect celebrates

Dairy Connect chief executive Shaughn Morgan said he was pleased with the outcome. "It's a great outcome for us," Mr Morgan said. "Unilateral variations are outlawed, except in two circumstances. One is if there's another global financial crisis or if there's legislative change, which is exactly what we asked for.

"If the processors want a step down in exceptional circumstances, it has to be looked at by the ACCC, so there's a safeguard in place. The ACCC will be the arbiter and, if they don't believe the step-down is justified, they can then refer it on for further review."

Farmer Power accepts code

Victorian group, Farmer Power, expressed some reservations about the code. "Though it may not be perfect, we believe, that it meets most of our expectations," it said in a statement. But the organisations still had concerns about the clauses relating to retrospective step downs.

Chinese giant expands Aust holdings

Key points

- ✔ Mengniu completes takeover of Bellamy's
- ✔ Subject to government conditions
- ✔ Puts in bid for Lion Dairy and Drinks

By **Andrew Marshall and Carlene Dowie**

CHINESE dairy giant China Mengniu Dairy Company is expanding its holdings in Australia, having finalised its takeover of Bellamys and putting in a bid for the remaining part of the Lion Dairy and Drinks business.

Bellamy's shareholders voted overwhelmingly in favour of a $1.5 billion takeover bid by Mengniu at a meeting in Melbourne in December.

In November, the company signed off a $600 million deal for Lion Dairy and Drinks, owned by Japanese brewing and food giant, Kirin, which has been on the market for more than a year.

Mengniu is one of China's biggest dairy companies. It is listed on the Hong Kong stock exchange, with a market capitalisation of $HKD121.32 billion ($A22.6 billion).

'I truly believe our proposed acquisition will bring tremendous opportunity for the entire Australian dairy sector...'

The giant Chinese dairy manufacturer has an indirect interest in Gippsland-based dairy processor Burra Foods and was reportedly in the hunt for Murray Goulburn when it was sold in 2018.

The Bellamy takeover is subject to conditions imposed by Treasurer Josh Frydenberg after the Foreign Investment Review Board recommended the takeover be approved.

The conditions require: a majority of Bellamy's board members to be Australian citizens; keeping the headquarters in Australia for at least 10 years; and spending at least $12 million in establishing or improving infant milk formula processing facilities in Victoria.

The company's Lion bid is expected to be finalised in the first half of this year, but will first be subject to competition and foreign investment regulatory approvals.

Lion's dairy and drinks business includes the Dairy Farmers, Masters and Pura white milk brands and flavoured milk under the Dare, Farmers Union and Big M names, plus Yoplait yoghurt in Australia and South East Asia, and the Berri and Daily Juice lines.

Its processing operations span 11 sites, plus a half share, with Bega Cheese, in the Canberra Milk business, Capitol Chilled Foods.

Lion is also a joint venture partner in plant-based beverage maker, Vitasoy Australia Products, at Wodonga on the NSW-Victorian border, making almond and soy drink products.

The Inner Mongolian-based Mengniu Dairy has promised to significantly increase raw milk purchases within Australia and to support high quality, value-added dairy production.

Mengniu Dairy chief executive officer Jeffrey Minfang Lu said he believed his planned Lion acquisition would bring significant benefits to both businesses, and offered further market opportunities for Australian dairy farmers, fruit growers and regional communities.

The 20-year-old Mengniu company, which is 20pc owned by Chinese government interests, currently sources some milk supplies from New Zealand and Europe for its yoghurt, milk and icecream operations, which span more than 30 processing plants in mainland China, Hong Kong, Macau and Australia.

Mengniu Dairy intended to promote and grow the dairy and drinks business domestically and in China and South East Asia.

"This acquisition brings together the best of the east and west, harnessing Mengniu Dairy's networks in existing markets and D and D's leading brands and production capability," Mr Lu said.

"I truly believe our proposed acquisition will bring tremendous opportunity for the entire Australian dairy sector, opening up a channel to our home market in a very significant way."

annual ryegrass

Annual ryegrass Forage EBVs based on regional replicated trials

2020 Forage EBV Guide

Variety Maturity	ploidy	Variety or brand	Mean				Flowering Days from Tetila		ME MJ/kg DM	CP %	NDF %	Extra meat value $/ha	Extra milk value $/ha	no. of trials
			winter	spring	total	est yield	NSW	WA						
LATE FLOWERING (> +8 days)														
SF Adrenalin	**tetraploid**	**variety**	**110**	**127**	**117**	**10,738**	**+9**	**+16**	**11.08**	**26.31**	**46.27**	**+$643**	**+$1262**	**39**
SF Speedyl	**tetraploid**	**variety**	**108**	**131**	**118**	**10,844**	**+12**	**+18**	**11.08**	**23.95**	**45.88**	**+$645**	**+$1254**	**43**
SF Sultan	**diploid**	**variety**	**106**	**131**	**117**	**10,776**	**+10**	**+11**	**10.94**	**25.17**	**47.91**	**+$510**	**+$953**	**50**
Pinnacle	tetraploid	variety	110	130	117	10,806	+10	+18	10.87	26.78	48.05	+$460	+$867	16
Hogan	tetraploid	variety	100	133	114	10,494								3
Zoom	diploid	variety	100	129	112	10,333	+14		10.84	23.57	46.64	+$434	+$855	5
Winter Star II	tetraploid	variety	103	125	113	10,395	+8		10.74	23.14	48.47	+$326	+$615	38
Ascend	tetraploid	variety	99	128	111	10,254								5
Arnie	diploid	variety	105	120	111	10,232	+7	+16	10.68	23.10	48.45	+$287	+$534	15
Jivet	tetraploid	variety	100	125	110	10,089								4
MID FLOWERING (+5 to +8 days)														
Catalyst	tetraploid	variety	108	105	108	9,916	+5	+7	10.66	21.47	45.24	+$367	+$754	10
SF CatapulT	**tetraploid**	**variety**	**107**	**113**	**110**	**10,098**	**+6**	**+7**	**10.70**	**22.79**	**46.91**	**+$341**	**+$672**	**27**
Tama	tetraploid	variety	108	118	110	10,143	+7		10.83	23.82	48.13	+$354	+$664	4
Mach 1	tetraploid	variety	102	117	109	10,059								5
EARLY FLOWERING (-2 to +4 days)														
SF Flyer	**diploid**	**variety**	**108**	**109**	**108**	**9,935**	**+1**	**0**	**10.84**	**23.57**	**46.64**	**+$225**	**+$745**	**36**
Winter Hawk	diploid	variety	110	103	108	9,991			10.86	23.16	47.45	+$380	+$710	7
Oretet	tetraploid	variety	109	104	110	10,144	0	0	10.73	22.32	47.85	+$364	+$622	6
SF Sprinter	**tetraploid**	**variety**	**109**	**112**	**110**	**10,096**	**+4**		**10.66**	**23.66**	**48.32**	**+$262**	**+$499**	**44**
Tetra Star	tetraploid	variety	109	116	110	10,092								4
Grassmax	diploid	variety	104	118	106	9,730								6
Rocket	tetraploid	brand	98	107	104	9,551								4
Sungrazer T	tetraploid	brand	101	105	101	9,343			10.64	25.17	49.46	+$73	+$150	15
Atomic	tetraploid	brand	103	98	101	9,313		+2						8
Tetila	***tetraploid***	***brand***	***100***	***100***	***100***	***9,212***	***0***	***0***	***10.40***	***22.40***	***49.23***	***$0***	***$0***	***41***
Double Crop	tetraploid	brand	107	93	97	8,930								3
Tetrone	tetraploid	brand	101	90	91	8,383								3

Relative rankings have been undertaken by comparing all yields as a percentage of Tetila.
Yield data is hundredised means from a minimum of three and up to 52 trials per variety/brand.
Varieties ranked on potential value first, or total yield where no nutritive value information is available.

Notes:

Feed quality data undertaken prior to all grazings from trials at Gundagai and Lismore (NSW) with hundredised means reported.
Feed quality analysis undertaken by NSW DPI Feed Quality Service at Wagga Wagga.

Meat and milk values estimated using Seed Force's Animal Performance Calculator™ based on the following assumptions:

- Meat at 65% feed utilisation, based on 300kg steer with 44MJ for maintenance and 45MJ/kg lwg at $2.50/kg
- Milk at 75% feed utilisation, based on 600kg cow with 100MJ for maintenance/exercise/pregnancy and 5.5MJ/litre at $0.53 per litre

Based on seed prices and ASF seeds database as at 1.12.2019
Varieties must have either Plant Breeders Rights, ASA or OECD Accreditation. They must be distinctive, uniform and consistent.
Brands do not have to meet these requirements and may vary.

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North-east Victoria sets its own course

Key points

- ✔ Kiewa Valley farmers form a modern co-operative
- ✔ Looked to open up options for selling milk
- ✔ Aim to redress supply chain imbalance

By **Di Thomas**

IN 2017, as dairy processor Murray Goulburn announced plans to sell the co-operative's assets to Canadian-based Saputo Dairy Australia for $1.3 billion, a group of five dairy families from North East Victoria aimed to take their future into their own hands.

The group, initially centred on the Kiewa Valley, formed the Mountain Milk Co-operative Pty Ltd in 2017 and started trading on July 1, 2018.

One of those farmers, Stuart Crosthwaite, who had returned as the fifth generation on his family farm 15 years before, became the inaugural chair of Mountain Milk.

Mr Crosthwaite said the dairy families and their consultant Patten Bridge, who became the company's first chief executive officer, had spent 18 months piecing together their new business before Murray Goulburn "self destructed".

Mountain Milk chair Stuart Crosthwaite and CEO Patten Bridge.

"I think we all realised we were geographically cornered," Mr Crosthwaite said. "Our only route to market for our milk was Murray Goulburn. That's okay if your processor is functioning well but we were feeling a little under pressure as Murray Goulburn was starting to not perform.

Mountain Co-operative members Stuart Crosthwaite, his daughter Indi, Darren Sagrera and Teresa Hicks are looking towards a positive future.

"We, hand on heart, thought if we could bring another processor into the region and give the community a second choice that would be a great outcome.

"The things we revolve around on a day-to-day basis are about reducing risk, improving security and having greater control of the marketing and the returns we get for our milk.

"But it's certainly not about a group of farmers just getting a little bit more for their milk. We chose a co-op to create an outcome for the community. There are inherent links between a co-op and its community."

Patten Bridge said the farmers' early discussions reflected the frustration of their increasingly limited control over their route to market.

"Between half a dozen farming families, we were asking 'how do we regain control of our farming futures?' And at that point the only commitment was 'let's continue this discussion and see where it goes'."

The Federal Government's Farming Together Program emerged as the means to put together a plan that would make change a reality.

The farmers' successful application gave them funding to work through the first three to four months before further funding supported the second phase – the development of a business case for their preferred co-operative model.

"We gravitated to the co-op because we wanted everyone to be equal," Mr Crosthwaite said.

"So whether you were 1000 cows or 100, everyone gets one vote and every kilogram of milk solids gets paid the same. That's why we chose the co-op because we didn't want people taking shares of profits, it had to be equal."

As part of the business case development, three of the company's directors – Mr Crosthwaite, Scott McKillop and Alice Holloway – undertook an additional commitment of 12 months ▶

◀ of on-line study with the University of Newcastle, covering co-operative history, law and governance.

"I think that really opened our eyes because our only benchmark as a co-op had been Murray Goulburn," Mr Crosthwaite said.

"Doing the study really opened our eyes to the potential of a modern co-op."

A concentrated and ongoing commitment of time from all directors in the initial 12 months refined the strategic plan, a constitution, business plan and values.

"That strategic plan and business plan we have revised once, and they are a foundation to operate from," Mr Crosthwaite said.

"We didn't want to be a milk-broking business. We didn't want to have something where we were arm wrestling for another 10 or 20 cents a kilogram for our milk.

"We wanted something that was not only going to deliver good stable returns, but we wanted to see how we could help each other and work together. That's another reason why we chose the co-op. It's all about collaboration and working together."

The co-operative's eight members, located across the Kiewa, King and Yackandandah valleys in north-east Victoria, are now producing between 22 and 23 million litres annually.

'Between half a dozen farming families, we were asking 'how do we regain control of our farming futures?' '

Their milk is going to Freedom Foods, Gundowring Ice Cream and Lactalis, formerly Parmalat. Gundowring Ice Cream is a multi-award winning manufacturer in the Kiewa Valley that markets its production of a premium product based on local providence.

A partnership agreement with Freedom Foods provides for the processing of 20 million litres of milk per annum at Freedom's Shepparton plant for the company's UHT milk, high value protein and infant formula products headed to domestic and export markets.

"When we set out to put the co-op together we wanted to have a really strong and healthy relationship with a processor," Mr Crosthwaite said.

"Freedom approached us when they heard about what we were trying to put together. They wanted to get closer to farmers and be able to understand what happens on farm and work together a lot better. It's been a great relationship from day dot."

Mr Bridge said: "I think it is also enough to say that they have been very supportive in working with us around stable pricing arrangements."

Both Mr Crosthwaite and Mr Bridge say redressing the supply chain imbalance that had tipped control too far in favour of retailers and processors has met one of the farmers' key goals.

"The variable pricing systems were encouraging farmers to grow milk when it wasn't suited to the farm," Mr Bridge said.

"All the scientific and economic evidence was that farms were more profitable when they were about to grow most of the milk at a time when they were grazing most of the pastures."

Mr Bridge said the farmers also wanted to come up with a model that would give consumers a clearer line of sight around to where their food

comes from and the values that underpin that.

"We're amazingly proud of how we farm and where we farm and the quality of the product that we produce. We should be enjoying the real value of that, the true value of that," Mr Crosthwaite said.

Chasing flat milk price incentives under any of the processors had previously led Mr Crosthwaite to milk his cows through the winter and the wettest part of the year.

"For me, for my particular farm, we've now got multiple years of pricing so I'm deploying more of my cows to calve in the spring with the aim of dropping my costs of production and making the farm more profitable. Is that not exactly what we set out to achieve?" he said.

"If I can start to focus on bringing my costs down by not feeding as much and not having to bring as much stuff in and reduce the intensity of farming over the winter it just makes a lot of sense."

Mr Bridge said the co-op has restored confidence to farmers "knocked about" when Murray Goulburn went through its price "claw back" period. "People are more interested in the business and are secure about what their price is going forward and secure that if they are running profitable businesses around that price then they can actually concentrate on their business," he said.

Farmers in the Kiewa Valley have taken a new approach and formed a modern co-operative.

Mr Bridge said almost all of the co-op members were now secure about price and making significant capital investments on their farms. Their investment projects include new infrastructure, expanding landholdings, ▶

renewable energy, irrigation, animal health and welfare, and fertility management.

Mr Crosthwaite said dairy farmers were increasingly running larger and more complex businesses, often employing multiple staff who were not family members.

"They're engaging in complex business operations that have challenges in HR, business and animal welfare," he said.

"If you have a look at the figures in the Australian dairy industry, there are still far too many people working far too long hours and having mental health issues.

"The whole model is really stretched. Part of what we are saying is we want to create a space to be in dairy where we are really looking after people, creating good lifestyles and good businesses."

And what of the future for Mountain Milk? Mr Crosthwaite said the co-op was not necessarily focused on growth.

"It's about what we set out to do, find the true value of our milk," he said.

"We don't want to bring whole heap of people on to something for the sake of growth. It's about finding value. It's about helping each other and getting a better outcome for our businesses.

"I think we'd like to grow a little bit more to have a little more scale. But there's a whole heap of other things on the agenda."

Mr Bridge said the Mountain Milk farmers had put a lot of work into finding their values and who they wanted to be.

"We're really interested in finding those want to be on that journey with us, but we're not interested in compromising those values for the sake of growth," he said.

The Mountain Milk families in September 2019 at a barbecue to celebrate the co-operative's annual general meeting.

Mr Bridge said an ongoing challenge for co-operative members was shutting out the "noise" of the price climb in the short-term milk market.

"Farmers now have to make decision themselves. They're out in the market looking at options and for most they are chasing price," he said.

"We are trying to take a longer-term view, and trying to build a really solid foundation for the future.

"The strength of work we did initially has allowed us to stay on course. They (the co-op members) have been so engaged in building the foundation. If we hadn't done that, I'm sure people may have gone elsewhere."

Mr Bridge said the co-operative and its members had drawn external interest to support pilot studies in new ways of dairying.

"Working with Dairy Australia, our farmers are looking at calf management in developing an animal health and welfare framework in which all our farms are benchmarked and reviewed against that framework," he said. "Another project revolves around data collection on farms and using mobile phones in an innovative way to improve that data capture.

"Then Melbourne University has asked us to look at the organisation of work on farms and how that is changing by reviewing a French workplace assessment model under Australian conditions.

"Part of our values is about giving back; saying we're interested in the future of dairy, we're passionate about the industry.

"We're interested in creating a better future and we're happy to be a part of contributing to creating that future through being involved in this research."

italian ryegrass

Italian ryegrass Forage EBVs based on regional replicated trials

2020 Forage EBV Guide

Variety Maturity	ploidy	Variety or brand	Mean				Flowering Days from Tetila		ME MJ/kg DM	CP %	NDF %	Extra meat value $/ha	Extra milk value $/ha	no. of trials
			winter	spring	summer	total	NSW	WA						
SF Accelerate 2	**diploid**	**variety**	**117**	**113**	**105**	**114**								**9**
Pepper	tetraploid	variety	112	107	91	107								5
Thumpa	tetraploid	variety	105	107	105	105								3
Momentum	diploid	variety	96	104	107	101			11.39	22.82	43.70	+$240	+$490	27
SF Indulgence	**diploid**	**variety**	**98**	**105**	**102**	**102**	**+14**	**+21**	**11.35**	**21.87**	**43.45**	**+$225**	**+$475**	**49**
SF Emmerson	**tetraploid**	**variety**	**98**	**105**	**99**	**100**	**+13**	**+18**	**11.33**	**22.50**	**44.00**	**+$151**	**+$347**	**46**
Asset AR37	diploid	variety	105	104	109	104			11.32	24.67	45.34	+$163	+$341	9
Nourish	tetraploid	variety	100	103	98	102	+14		11.23	20.55	44.23	+$111	+$274	29
Feast II	tetraploid	variety	101	102	102	102	+12		11.20	22.51	44.44	+$112	+$268	43
SF Accelerate	**diploid**	**variety**	**102**	**107**	**113**	**105**	**+12**	**+21**	**11.07**	**21.65**	**45.39**	**+$115**	**+$212**	**49**
SF Tonuss	**diploid**	**variety**	**100**	**104**	**110**	**103**	**+15**		**11.22**	**23.85**	**45.77**	**+$101**	**+$190**	**28**
Maverick GII	diploid	variety	94	103	106	100	+14		11.14	22.05	44.95	+$42	+$119	27
Hulk	diploid	variety	100	99	100	99	+12		11.09	21.49	45.15	+$20	+$54	37
Crusader	***diploid***	***variety***	***100***	***100***	***100***	***100***	***+12***	***+18***	***11.10***	***22.29***	***46.08***	***$0***	***$0***	***48***
Aston	tetraploid	variety	100	96	86	98		+18	11.22	22.74	45.14	-$37	-$1	13
Sonik	diploid	variety	102	101	90	101	+10		11.03	23.45	45.98	-$7	-$12	22
Diplex	diploid	brand	107	98	85	101	+7		10.85	24.65	46.50	-$41	-$126	11
Concord 2	diploid	variety	104	103	102	103			10.91	20.11	46.91	-$66	-$140	12
Knight	diploid	variety	106	102	92	104			10.83	20.94	47.64	-$109	-$242	16
Eclipse Select	diploid	variety	102	97	52	99								5
Charger	diploid	variety	104	91	70	95	+7		10.78	21.00	47.28	-$256	-$496	8

Relative rankings have been undertaken by comparing all yields as a percentage of Crusader.
Yield data is hundredised means from a minimum of three and up to 51 trials per variety/brand
Varieties ranked on potential value first, or total yield where no nutritive value information is available.

Notes:

Feed quality data undertaken prior to all grazings from trials at Gundagai and Lismore (NSW) with hundredised means reported.
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Based on seed prices and ASF seeds database as at 1.12.2019
Varieties must have either Plant Breeders Rights, ASA or OECD Accreditation. They must be distinctive, uniform and consistent.
Brands do not have to meet these requirements and may vary.

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Succession plan helps create base for future

Key points

- ✔ Succession plan allowed business to grow
- ✔ Built new dairy in middle of farm
- ✔ Extended irrigation and grow maize for silage

By **Di Thomas**

RETURNING home 15 years ago as a fifth-generation Kiewa Valley dairy farmer, Stuart Crosthwaite knew he wanted to build something for the future.

"North-east Victoria is one of the best places to set up a dairy farm," he said.

"It's got a reliable climate, it's a little bit extreme but reliable, great access to water, great rainfall, great soils, great community. It's a perfect place to set a dairy business up and that's a pretty good set of ingredients for setting up a co-op."

Fifteen years on and Mr Crosthwaite says the comparison of his Kergunyah South property then and now are "literally chalk and cheese".

Milk production has tripled and the herd has grown from 280 to 470 head, with a move to calving in the spring. There is a new dairy, increased irrigation and a small staff working to an agreed set of values.

Perhaps most importantly, Mr Crosthwaite and his wife Sarah have had the freedom to grow their business by embarking on a farm succession plan three or four years after their return to the north east.

"That's probably been the foundation or cornerstone for all of the growth to be honest," he said.

"It's not about me, about Stuart and Sarah coming home to the farm and doing this amazing thing. It's really highlighted the power in letting the next generation come through.

"And it allowed mum and dad to do what they wanted to do. We had the security of knowing how the estate was going to wind up.

"Succession planning has given us the freedom to invest, to take the farm and grow it. And we've seen a tripling of the milk production."

With the question of succession resolved, the Crosthwaites set about investing in pastures and cows, taking the herd from 280 cows to 470 cows on 230ha of milking area across their 600ha farm.

Stuart Crosthwaite has adapted the process of building a culture within the new co-op to transforming his own business with values including respect, confidentiality, diligence, teamwork and communication.

"We built a foundation of milk production so we could support extra debt," he said.

"Then we built a new dairy and moved that to the middle of the farm. That has fuelled further growth."

Half of the property's 230ha milking area is irrigated and the Crosthwaites are now investing in extending that irrigation.

In the past four years they have been growing maize as a feed source for feeding the herd during the winter, supported by the extension of the irrigation structure.

"We are growing the maize for around $200/tonne and on the areas where we grow it we effectively triple production," Mr Crosthwaite said.

Effluent is used to grow the maize that mines the potassium in the effluent in a closed loop.

"In the winter, we've always had fat suppression with our milk because there is a lack of fibre and too much protein in the cows' diet," Mr Crosthwaite said.

"The maize is perfect because it has high fibre and low protein so it complements the existing pasture quite well. The cows are just so much more stable. We've been able to lift butter fat through the winter and it's now contributing to greater fertility in the herd.

> ***'It's really highlighted the power in letting the next generation come through.'***

"From a herd fertility point of view, in the last mating period we had 13 per cent improvement in calf rate, which is staggering."

Mr Crosthwaite said not only had the maize taken the pressure off the farm's pastures in the winter, but its growth had been phenomenal and showed the region's efficiency of water use.

"We're growing it with three to four megalitres of irrigated water. The rest of it comes from rainfall and soil moisture," he said.

"To grow a crop like that and put it under a plastic cover for silage at $200/tonne with only three to four megalitres of water, that's pretty impressive. Normally you would be using eight to 10 megalitres."

Mr Crosthwaite said there was now about 120ha of corn grown in the Kiewa Valley, supporting the region's dairy farms.

The crop was perfect for the alluvial soils that allowed the plant to put its roots down and tap into the available moisture.

He gave the example where this season's maize crop had been planted on paddocks where new irrigation systems were now being installed.

"The irrigation systems won't be up and going for another three or four weeks. We planted it at 100mm down in the soil moisture and in less than seven days it was up. Then we got an inch of rain on it."

The significance of what has been created with the establishment of Mountain Milk is not lost on Mr Crosthwaite, who had initially been running his dairy business and "doing a little bit of stuff in the community".

"The next minute you're running a second business on the side. It's no mean feat to bring five different successful dairy business operators together to create another business op-

Sarah and Stuart Crosthwaite with their children, Otto and Indi at home on their Kergunyah South, Vic, dairy farm.

eration and agree on a strategic plan, agree on how we are going to make decisions and co-ordinate all that," he said.

"But we've developed a culture around decision making and understanding each other. I'm really impressed. It's really courageous what they have done.

"For Sarah and I, the whole journey of putting co-op together, and I think for most of the other farmers involved, it has been really refreshing being out of the farmer-processor arrangement, having a little bit more control and a little bit more of a say in what happens to our milk and what we get for it, and how we find more value through the co-op.

"I think I'm quite resilient and mentally strong, but I think there's been a mental health element in there. It's been quite therapeutic, getting rid of that noise and not being dictated to."

Mr Crosthwaite said he had adapted the process of building a culture within the new co-op to transforming his own business with values including respect, confidentiality, diligence, teamwork and communication.

"A lot of people would look at values as a bit of fluff but it's pretty powerful stuff," he said.

"I've started doing it here in the farm business and I've let the staff drive it. We've got a set of values, a little bit different to the Mountain Milk ones but there are some similar words in there. It's been really encouraging seeing them grow and take ownership of it.

"Once you have that foundation that we're all agreeing on, then everyone can be held to account.

"It's also a really good piece of evidence that it's not about today, it's about tomorrow. Why would you worry about setting values if you were trying to cash in." D

Ag must act now on sustainability

Key points

- ✔ Agriculture moves slowly so must act now to address sustainability
- ✔ Technology may provide answers, but must be used responsibly
- ✔ Dairy industry framework a world leader

By **Carlene Dowie**

AGRICULTURE must act now to play its part in solving the world's sustainability challenge before it's too late, a dairy business breakfast in Melbourne in November was told.

The World Wide Fund for Nature's global commodity leader — livestock Queensland-based Ian McConnel told the Australian Dairy Industry Council business breakfast the point at which people could no longer claim ignorance of the crisis the world was facing was fast approaching.

"The world increasingly knows the science behind the environment and climate, at what point do we have the ability to say we no longer have an excuse," he asked. But he acknowledged that more needed to be done to allow agriculture to use technology, such as genetically modified organisms, to help it become more sustainable.

Ian McConnel: "Right now we are consuming earth's resources at 1.6 times the rate that we are able to regenerate each year."

"The speed of trajectory of change that we need is going to need a rapid level of innovation," he said.

"I do fundamentally believe one of the risks, and one of the risks we have identified internally, in achieving a sustainable future is allowing technologies to make it happen.

"There is no doubt there is a genuine risk in certain markets around the world that we won't be given access to the tools that are needed."

But Mr McConnel said farmers and other users of those technologies also needed to take responsibility to use them properly. Problems with GM — such as emerging chemical resistance due to overuse — were real. "It is hard to blame the community, when we shot ourselves in the foot when given that technology," he said.

There also needed to be greater adoption of existing technologies.

"I don't know if we have the uptake of the technologies that we already have at the level that is needed," he said. "As we build new innovation, we need to make sure we are getting it either used on farm — and take some responsibility as those developing it — that we are making it usable, easy and affordable."

Farming not blamed for climate change

Mr McConnel challenged the view that farming was blamed for climate change.

"I often hear from farming communities that we in farming and especially livestock cattle are being blamed for climate change," he said. "What is really interesting is that I get onto the phone to our global climate lead and ask her, ... and (she says) agriculture is not on our radar for now.

"It is the energy revolution that is needed."

Mr McConnel said the only space he heard about farming being blamed for climate change was from within farming circles.

"We tend to read the stories about it and elevate it in our own discussions," he said.

But if agriculture did not act, as other industries resolved their issues, it would become more of a focus.

"But it is fair to say we are being looked at as much as a solution as a challenge in that space and we need to own that solution, especially in land-based agriculture," he said.

Confronting picture

Mr McConnel painted a confronting picture of the challenge facing the world.

"Right now we are consuming earth's resources at 1.6 times the rate that we are able to regenerate each year," he said.

"The scary bit about that is by 2030 it will be double on the current projectory, by 2050 on the current projections, we are at a crisis."

The world's population would swell to 9 billion by 2050, with 7 billion living in urban areas, increasingly disconnected from the rest of the population who would need to feed and clothe it.

Agriculture's role

But agriculture could — and would need to — play a pivotal role.

Many landscapes around the world were managed by farmers, but that also meant 70 per cent of biodiversity loss was attributed to converting land to agriculture, and agriculture used 70pc of fresh water, produced 25pc of greenhouse gas emissions, was the biggest user of chemicals and was responsible for 50pc of top soil loss.

'There are unintended consequences of focusing solely on climate change.'

"The stat that's missing at the bottom of that is that it feeds 100pc of us," Mr McConnel said.

The challenge for agriculture was that it was slow moving.

"The urgency may not be in the fact that the planet is going to crash tomorrow in its natural systems but I think there is urgency to start the journey because of how long it is going to take us to get there," he said.

UN sustainable development goals

The need for action was also being driven by the United Nations, governments, environmental organisations and corporations around the world.

The UN's sustainable development goals — a set of agreed goals, signed off by governments among all the UN members — would be refined and expanded next year.

"And there are some confronting things in there for agriculture," Mr McConnel said. "For example, next year there is a commitment in there that governments are going to push sustainable supply chains to be deforestration free and we will have no deforestation by 2030."

Currently soy — a major feed source for dairy globally and also beef —is the largest source of deforestation globally and corporate supply chains are being asked to stop it next year.

"It is a severe challenge and the world is watching," Mr McConnel said.

WWF would be promoting the view that a strong biosphere was needed to have a strong economy and society.

"At WWF we are going into to these discussions about creating a new deal for nature and people," he said.

But there was also a challenge in addressing more issues than just climate change.

"We can no longer afford to have a singular focus on things like climate change," Mr McConnel said.

"We need to look more at life on land, life below water, clean water, sanitation — these are the goals we are going to focus our goals in agriculture."

Dairy sustainability framework

Mr McConnel praised the Australian Dairy Industry Sustainability Framework as a world leader.

The framework's goals were being copied by the International Dairy Federation and being promoted by groups other than dairy groups.

"The impact of this framework and the engagement that underpins it potentially makes it one of the strongest and engaged frameworks that your industry has," he said.

The framework set up the dairy industry to better meet the demands of consumers looking for more sustainable products.

Mr McConnel said ultimately consumers and voters would be the trigger for more action on climate change.

"I don't think this purely has to be a government policy, I think we can play a role without policy, I think we should be playing a role," he said.

There were some alarming stories around climate change.

"One of the facts that really hits it home for me is that the ice age was only 4 degrees cooler, so when we talk about 1.5 or 2 degrees, we are talking fundamentally about very drastic change," he said.

He challenged the view that sustainable practices meant increased costs for farmers. "I'll challenge the premise that sustainability costs — partly because there's a million available case studies of farmers who have made more money through adopting practices that build soil carbon, build soil health," Mr McConnel said.

"I think we need to be careful about how we frame the case that sustainability costs more because it doesn't have to.

"And ideally it shouldn't — it should be a win:win because sustainability has three pillars — one being economic.

"The other point I would raise is demanding the consumer pay more as opposed to providing them a product that's worth more."

Products from sustainable systems should be valued for that.

"So rather than saying you pay more for milk and I will become more sustainable, produce a product that has attributes that you have decided consumers are willing to invest in and change the framing of that." D

DA sees bright future, despite troubles

Key points

- ✔ DA leaders acknowledge tough season for many farmers
- ✔ Delivered programs on the ground where needed
- ✔ Flagship programs promise big gains

By **Carlene Dowie**

DESPITE the dairy industry facing some of its toughest times in recent years, Dairy Australia believes dairy still has a bright future in Australia.

Both DA's chair Jeff Odgers and managing director David Nation spoke at the organisation's annual general meeting in Gippsland in November of the challenges facing the industry.

"There is no doubt that 2018-19 was one of the toughest seasons in recent memory," Mr Odgers said. "Persistent dry conditions across all regions significantly impacted the cost of key inputs and farm profitability.

"National milk production decreased 5.7 per cent to 8.8 billion litres, but this decline could have been even more pronounced.

"I think farmers characteristically showed their resilience in the face of these challenges."

'There is no doubt that 2018-19 was one of the toughest seasons in recent memory.'

Dr Nation said the past five years had been genuinely challenging for the dairy industry globally and in Australia. "After the pricing shocks of a few years ago, it has now been followed up by drought across eastern Australia that's affected the whole country," he said.

"I am inspired by the way so many farmers have fought against the odds knowing how important it is to keep cows milking and finding a way to get through."

Both Mr Odgers and Dr Nation pointed to Dairy Australia programs – many run through its regional development program network – to help farmers meet the challenges of drought and business viability.

"DA focused on having boots on the grounds where needed," Mr Odgers said. "Nearly two thirds of farmers have participated in at least one regional event in the last six months."

Dr Nation said the response had included specific drought, tough times and feed shortage programs.

Both also spoke of DA's flagship programs, many in collaboration with other organisations, as having delivered major gains, and promising more. These included investments at DairyBio to improve animal and pasture genetics, Datagene and Dairy Feedbase.

Mr Odgers also spoke of the changed approach to marketing – with an emphasis on building trust with a key group of consumers.

"Building community trust is now more important than product promotion," Mr Odgers said.

"Trust is built by providing credible and transparent information on all aspects of the supply chain.

"Our Dairy Matters campaign launched in April this year aims to connect with socially conscious consumers. Based on market research this campaign is also hitting the mark." D

Tough questions asked at DA AGM

By **Carlene Dowie**

DAIRY farmers grilled Dairy Australia's staff at the annual general meeting at Lardner Park in late November about a range of issues — from marketing to membership and advocacy.

Karinjeet Singh-Mahil, Crossley, Vic, asked if DA was aware of an emerging group of consumers between their late 20s and 50s who had given up milk and were not interested in dairy products and what did DA have in its suite of programs to deal with this.

Dairy Australia group manager - marketing and communications Kendra Campbell said the consumer research DA had done in identifying the influential 'changemaker' group didn't show a skew to any age group.

But internationally, research showed millennials and gen-z had a greater sphere of influences and were flexing between dairy and alternatives more often.

Patrick Glass, Gundowring, Vic.

"In terms of our response, we've absolutely got to continue to push the trust message in dairy and promote what we are doing in terms of our commitment to the environment, and welfare, particularly the environment, and health and nutrition," Ms Campbell said. "And that is certainly playing into our plans for next year."

DA chair Jeff Odgers said a lot of alternative products were not the same as milk in terms of their nutritional value. Australian Dairy Farmers and state dairy farming organisations were working on regulatory approaches to labelling milk alternatives, which was based on comparing attributes of those products. "I think we all share similar views, we want to defend something we absolutely believe in," he said.

Patrick Glass, Gundowring, Vic, asked what was being done to protect a key income stream for farms — the export of dairy genetics, by explaining the value of the trade.

DA managing director Dr David Nation said it was important for farm leaders to tell the story of the importance of that trade.

"We are talking about breeding stock to go to places like China and Pakistan and Mexico to have a full life in those countries, to be on farms that are just like farms here, and to have a normal productive life on those farms," he said. It was important those issues were picked up in the ADF policy advisory groups and that the leaders of those groups were armed with the facts to be able to tell the story of the merit of that trade.

DA group manager — trade and

industry strategy Charles McElhone said the live heifer trade did bring value to the industry and DA had been doing a lot of work for a number of years to try to secure that trade, particularly into China.

"We have had some issues around three-generation pedigree requirements into the Chinese market," he said. "And we have been talking actively with them about making sure they are comfortable with the kind of systems and processes that we have in place to ensure those quality requirements come out of the Australian dairy herd."

DA was also working with Livecorp and the Australian Livestock Exporters' Council to look at potential pressure points in heifer trade markets around the world to ensure Australia had a secure trade.

Robert Auchterlonie, Dumbalk, Vic, asked what DA was doing to address the current rate of loss of farmers from the industry and was it missing something that was a factor in this loss.

Mr Odgers said from his personal point of view every drop of milk and every farmer lost to the industry mattered. Diminishing farmer numbers were a global trend.

"None of us like it," he said. "But I think people make individual choices for all sorts of reasons about whether they remain in the industry.

"It's a tough game, dairying, we know it is. It can be a very rewarding game but it's a tough game and it's become harder to be profitable.

"There are some real social trends at play out there that don't see some farmers feeling as inclined to continue, that is just a reality."

He pointed to the Australian Dairy Plan as providing potential solutions, with workshops indicating a sense that the industry could grow.

"We do need to try to get people in a place in their businesses where they can stay in the industry or contemplate growing if they want to," he said. "Because when things are growing, even if it is just really steadily, that brings all sorts of positives."

Michael Partridge, Benger, WA, asked if DA was going to provide more support to state dairy farming organisations, given the importance of advocacy on many issues and given that only 30-40 per cent of farmers contributed to those organisation.

Mr Odgers said DA recognised the work representative organisations did but its funds had been stretched and it was called on to support many other dairy organisations, but had mainly looked at the national level.

Paul Mumford, Won Wron, Vic.

Dr Nation said the future role of DA, levies and advocacy was the focus of the Australian Dairy Plan's Joint Transition Team.

It was vital to ensure the industry had a strong voice and strong services, both at a national level and in every region. It was important to get the structure right in the next phase.

Bernie Free, Winslow, Vic, asked why every dairy farmer was not automatically a DA member when every dairy farmer was compelled to pay levies and why DA had not looked at ways to make this happen.

Dr Nation said the government set the rules that meant no one could automatically become a member of a company, which was how DA was formally structured.

Mr Odgers said he regularly flagged the issue with farmers encouraging them to join but there was nothing more DA could do under the current legislation.

Paul Mumford, Won Wron, Vic, asked if DA had heard his call as UDV president several months ago about where had it been and if was hearing the grassroots message that research, development and extension portions were not being distributed as farmers wanted and if DA was committed to supporting the Australian Dairy Plan.

Mr Odgers said DA was committed to deliver on the key areas identified from the dairy plan workshops.

In terms of responding to farmer requests, he said engagement levels with DA events were rising, with more than 6000 people attending more than 1000 DA events across the nation in the past 12 months.

DA now spent less on the research component — about $10 million out of its $58 million spend last year was on the large, flagship research programs.

But the leverage on these was amazing. "The farmer contribution to those flagship programs is about one-fifth of the total spend; the rest is backed in ▶

◀ by other partners," he said. "I know it is tough out there but if we don't fund research and find the edge with research in this country — which has sort of got its own unique operating environment in world dairy — we are going to slip behind."

Ian Morris, Cobden, Vic, asked why processors were represented on the DA board and why funds were spent on export promotion, given the change in the industry from co-ops, which meant such expenditure was now subsidising major international players.

Mr Odgers said the Australian Dairy Plan national workshop backed the industry working on structures in a whole-of-chain way. "Processors are a part of the chain — I don't know about subsidising international players — but we need processors to be successful so the rest of the chain can be successful," he said. DA's spend post farmgate on the manufacturing end of the industry was small.

Dr Nation said it was important to look at the role of farmers and processors in the supply chain — when they should work together and when they had their own interests.

"From a DA perspective, 35pc of milk last year was exported," he said.

Robert Auchterlonie, Dumbalk, Vic.

"Still a lot of milk goes overseas. International markets are still important to the prosperity of the Australian dairy industry and will be for the foreseeable future."

DA spent a small amount promoting Australian products overseas, but that was important for farmers to ensure Australian products had the strongest image overseas regardless of which company was responsible for processing and getting involved in the export activity. "There are genuine times when it is in farmers' interest to support Australian dairy products here and overseas," Dr Nation said.

Paul Mundy, Cobram East, Vic, said from his perspective the dairy plan national workshop was not necessarily representative of farmers' views as the table he had been on at the event had three dairy farmers, three processor representatives and two supermarket representatives.

Noel Campbell, Yannathan, Vic, said he did not want to pre-empt the dairy plan nor upset anyone in areas that were struggling with drought, but the reality was that at some point the tide would change and the dial would need to be set to the future.

"I don't want to be seen as an industry that needs a gold-coin donation," he said. "And I think we all need to understand that there are significant areas of Australia that are also doing very well and we need to recognise that."

Mr Odgers said that was one of the huge challenges for Dairy Australia.

"If you want to go from the Atherton Tablelands down to the Derwent Valley in Hobart ... over to Western Australia, it is a massive country and it is an industry that does really well in regions right across our country," he said. "But it is so diverse in terms of how to run farms and what markets are like. We as an industry have to get our heads together and work around that."Because I tell you what, if this breaks down into regional pockets, we will all suffer. That's our challenge." D

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What are the key actions in dairy plan?

THE draft Australian Dairy Plan released at the beginning of December provided a clear commitment to turnaround the industry (see story page 11).

It identified the challenge for the industry being that dairy made a vital contribution to the Australian economy, particularly in regional areas, but rising input costs, combined with unprecedented volatility, in recent years had undermined profitability.

This had depleted industry confidence and led to an accelerated rate of farm exits and a drop in milk production from a peak of 11 billion litres in the early 2000s to below 9 billion litres in 2018-19.

But the plan said the 'drift and decline' in the industry could be reversed, particularly as the demand for dairy products remains strong.

The dairy plan aims to:

- Lift profitability across the dairy supply chain.
- Rebuild the confidence of dairy businesses in the industry's future.
- Unite the industry by working together to address key challenges.

To achieve this, the industry must:

- Respond effectively to the key priorities identified through the consultations.
- Continue to do the fundamentals well.
- Build and sustain a positive industry culture and narrative.

The plan is built around five commitments with a series of actions below each commitment.

Commitment 1: Reform industry structures

The plan commits to reform dairy industry structures to create a more cohesive dairy industry and a more influential advocacy voice.

The draft plan did not release details on this reform. A Joint Transition Team (JTT) established to examine the organisational arrangements and recommend reform options was to report back by the end of December.

Its report will be released this month for industry feedback.

Commitment 2: Attract new entrants

The plan commits to attract and support new entrants and investment to build industry capacity.

It identified improving profitability as the key to making the industry more attractive, but it also identified several specific challenges that require attention to keep the pipeline of new people and investments open.

These include reducing the entry costs and creating new avenues to dairy farm asset ownership for people looking to make a start in the industry, increasing industry investment by better targeting different investor groups and promoting clear career pathways for people interested in careers either in farming or in the milk processing and supporting services sector.

The plan identified that a key barrier for young people looking to enter the industry was access to capital.

There are several ways to manage this:

- Working with the finance sector to identify ways of reducing the costs of accessing finance (e.g. by reducing the risk rating for those who demonstrate a certain standard of business skills or educational attainment).
- Securing government support for reducing some of the regulatory costs of doing business (e.g. stamp duty; approval processes) and/or by offering low interest loans to young farmers (e.g. HECS style).
- Promoting new forms of low-level equity partnership arrangements (e.g. encouraging structures for investing in dairy herd ownership as a successful business, without the expense of land ownership).

Commitment 3: Building trust with consumers

The plan commits to increasing the industry effort in marketing and promotion to build greater levels of trust with consumers and to improve the value of dairy products.

The dairy industry faces rising consumer expectations regarding health and nutrition, animal welfare, farmer welfare, environmental impacts and responses to climate change pressures.

While there is a need to respond to expectations, there is also an opportunity to increase support for Australian dairy by reinforcing its value.

To do this, the industry needs to respond with an increased effort in marketing and promotion.

The plan commits to securing whole of supply chain support for a major new national campaign that will double the size and scope of the marketing effort to drive trust and value for dairy products and the industry.

The campaign will drive support for dairy products and rally support for the industry.

Commitment 4: Lift business skills

The plan commits the industry to intensify the focus on farm business skills to improve profitability and better manage risk.

Increasing levels of volatility have put pressure on the ability of farm businesses to make a profit.

The common characteristic of more profitable farming practices is the application of excellent business skills to manage risks and lower the costs of production.

The plan commits the industry to deliver a rapid expansion of services to increase farm business skills with the aim of all farm businesses working to a farm business plan by 2025.

The plan also commits to increase the use of both physical and financial data to make better decisions on-farm. It also aims to work with governments to source on-farm grants to help farmers manage risk.

Commitment 5: Restore trust and transparency across supply chain

The plan commits to restoring trust and transparency between farmers, processors and retailers to strengthen industry confidence.

The industry recognises that several recent events have contributed to a significant loss of trust across the dairy supply chain. A key part of rebuilding trust is helping farmers more effectively manage the risks associated with high levels of price volatility in the dairy industry.

A stronger focus on farm milk price (FMP) disclosure and supporting measures will assist with this. This includes the establishment of a Milk Price Monitor that will provide transparent information on FMP.

The plan also commits to improve industry understanding of the drivers of FMP with processors to publish other information to help increase the transparency of some of the drivers that influence prices.

This also lays the groundwork for transitioning over time to a functioning futures market for raw milk.

The Milk Price Monitor is the first step in moving towards a functioning milk price market backed by government legislation (as operates in other major dairy producing countries).

A positive industry culture

The plan identified that a key enabler for transforming the Australian dairy industry is a positive industry culture and narrative.

"The dairy industry has historically prided itself on its constructive and collaborative culture, however, many in the industry nowadays do not characterise it that way, pointing towards a negative narrative and culture that is having a pervasive and counter-productive influence across every area of the industry," the plan said.

"This means making an urgent, meaningful, industry-wide shift in how the industry thinks and talks about itself, how it treats people and how it does business. This is one of the most important actions in the dairy plan."

Finalising the plan

Members of industry and key stakeholders can provide feedback on the draft dairy plan via the website <www.dairyplan.com.au>.

The deadline for feedback is Friday, February 7.

The final Dairy Plan will be released in March 2020.

Time to speak out

Key points

- ✔ Third-generation on dairy farm
- ✔ Gippsland Community Leadership program inspires new focus
- ✔ Farmers need to tell their story differently

LEONGATHA South, Vic, dairy farmer Benjamin Vagg says it's time for farmers to speak out and show the world what they have to offer.

Mr Vagg, who has recently taken on a senior role with the United Dairyfarmers of Victoria, says the views of farmers are too often ignored but they will become more important as the world meets the challenge of feeding a growing population. He says his involvement as a Gardiner Dairy Foundation sponsored participant in the Gippsland Community Leadership program in 2017 helped to inspire his community focus.

The third-generation farmer is now assistant manager on the family farm milking 420 cows, an increase of 32 on last year.

"We have a strategy to keep growing; the milk price and a good season have helped that," he said.

Mr Vagg, 30, worked as an agronomist and studied at Latrobe University and Massey University in New Zealand, before returning to the farm in 2017 while finishing his Masters in Agri-Commerce.

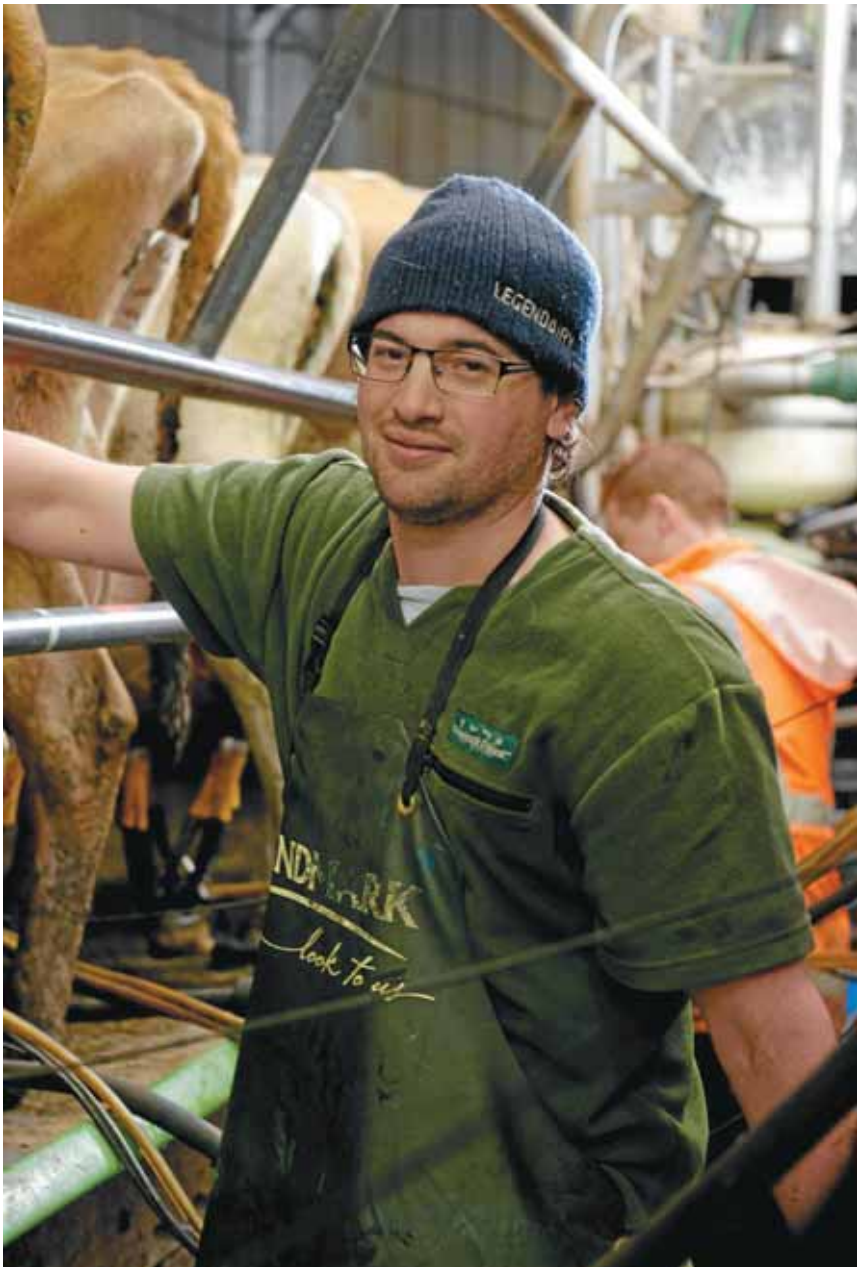
This is his first full season on the farm and, motivated by the leadership program, he wants to make sure farmers are heard and respected.

"I've always been interested in representation, leadership and community involvement," he said.

"Because farm businesses have got bigger and more involved, farmers have kind-of vacated the representation space.

"Farmers' ability to understand complex problems and break them down to simple solutions is still there, and the community is crying out for that."

Mr Vagg said the program helped him to make links across the community and consider issues facing farmers in other areas, such as drought in East Gippsland, water in northern Victoria or power supply in Western Victoria.



Benjamin Vagg says farmers are the grassroots of their communities.

"Those connections brought their plight to my attention and I hope to advocate on their behalf," he said.

"The broader community, not just Gippsland, needs to hear what farmers have to say. Farmers and rural communities are sometimes easy votes so we're constantly ignored."

However, Mr Vagg said farmers could help to change that.

"I want to see the language change when farmers describe their successes," he said.

"They do it tough here and there

but they are successful if they're still doing it; they're entrepreneurs; the grass roots of their communities.

"If they change how they describe themselves that will improve how the community perceives them; we don't just provide food; we're the backbone of the community and we need to highlight the professionalism that's involved in producing safe food."

Mr Vagg recommends other farmers consider the Community Leadership program and he wants the broader community to consider farming as a career.

'I want to see the language change when farmers describe their successes.'

"You're not just a farmer; you're an integral member of the community," he said. "People want farmers' opinions and ways to solve problems and if you develop skills and experience in agriculture, you will always be gainfully employed."

For more information go to <https://www.gardinerfoundation.com.au/people-community/#pc7> or email Richard Meredith <richard.meredith@gardinerfoundation.com.au>.

Inspiring young achievers

DESPITE growing up in Melbourne, a career in agriculture was always on the cards for Harriet Bawden, Shepparton, Vic, who hopes to inspire others to follow her footsteps.

Ms Bawden's parents had a hobby farm near Colac, Vic, her uncle was a farmer and university study took her to an agricultural region. "Historically my family were farmers so I've come full circle," she said.

Now co-ordinator of Murray Dairy's Young Dairy Network (YDN) and a member of the Goulburn Valley Young Professionals, Ms Bawden is helping a new generation to appreciate the challenges and joys of working in the country.

She's also the Shepparton Chamber of Commerce and Industry Awards 2019 Young Professional of the Year.

Ms Bawden, 29, says a Gardiner Dairy Foundation sponsored place in the Fairley Community Leadership Program is helping her to achieve her goals and harness the enthusiasm of other young people.

"I saw it as a great development opportunity in terms of leadership in a traditional sense but also with the emphasis on community leadership," she said.

"The YDN and Young Professionals groups share common goals in aiming to attract, retain and support young people in the community. There are lots of common challenges and opportunities across both and they're all about strengthening our regional communities and making them inviting for young people to live and work," Ms Bawden said.

"The lovely thing about regional communities is that they are all interlinked. Dairy is such a heart of our region and being a part of the dairy industry connects you to the community.

"I loved how the program presented leadership in all its forms and encouraged us to identify leaders we admire and the qualities we want to emulate.

Harriett Bawden has forged a career in agriculture in northern Victoria.

"I learnt a lot about recognising the different values of people and listening and engaging in different ways and leading through demonstration."

Ms Bawden is now committed to agriculture and with her partner, Chase, is investigating options to get into farming.

From a career perspective, she would like to continue to focus on agriculture, with options to expand into community development or policy development.

Ms Bawden encourages other young people to take on leadership programs and seek out Gardiner Dairy Foundation support.

"The best thing about it is that it gets you out of your own circle," she said.

"It challenges you and shows you new ways of operating and new ways of thinking."

Despite its challenges, Ms Bawden said there was growing enthusiasm for the dairy industry among young people.

"The Young Dairy Network is really strong with people who genuinely want to form connections and learn from others," she said.

"They're positive about the industry because they're open to changing the way they operate. They know it's a difficult and volatile environment but they're building their businesses around that.

"The challenge is to retain people. We don't want to lose young people out of our communities so we need to offer them the same opportunities as in the city, if not better."

For more information go to <https://www.gardinerfoundation.com.au/> or email Richard Meredith <richard.meredith@gardinerfoundation.com.au>.

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PROGRAM AT A GLANCE

WEDNESDAY 19 FEBRUARY

ADC First timers event – hosted by the 2020 Programming Committee
ADC Welcome Function – hosted by Fonterra

THURSDAY 20 FEBRUARY

SESSION ONE – DAIRY CULTURES

How changing a culture is possible - Ronni Khan AO (CEO & founder Oz Harvest)
Fostering sustainable behaviour - Jude Capper (Sustainability consultant, UK)
Does the Australian industry need a culture check? - Jeff Odgers (Chair, Dairy Australia)

SESSION TWO – DIGGING DEEPER FOR ANSWERS

The five biggest challenges – John Roche (Chief Science Adviser, Minister Primary Industry, NZ)
The good soil - Frances Hoyle (Scientist, University WA)
Change for good – Wil Armitage (UK dairy farmer & Nuffield Scholar)
Panel discussion – John Roche, Frances Hoyle and Wil Armitage

SESSION THREE – WAR ON WASTE

War on dairy waste – Chris Russell (Agricultural scientist)
Are we lean enough? – Jana Hocken (The Lean Dairy Farm)
What will it take to make change in our attitude to waste? Panel discussion with Helen Dornom (Dairy Australia), Zac Dornom (EPA Gippsland), Graeme Nicoll (Dairy farmer), Jane Hocken (The Lean Dairy Farm)

SESSION FOUR – YOUNG DAIRY SCIENTIST

Finalists in the Young Dairy Scientists Award sponsored by Boehringer Ingelheim present their work and field of research. Led by ADC Scientific Director Richard Rawnsley and Dairy Matters ambassador & chef Matt Moran.

AUSTRALIAN DAIRY CONFERENCE GALA DINNER

Hosted by Rabobank

FRIDAY 21 FEBRUARY

ADC Annual General Meeting

SESSION FIVE – RATTLING THE DAIRY FOOD CHAIN

Are today's consumers rattling the chain? – Justin Melletin (consumer insights specialist)
Up close & personal with key players in the dairy supply chain – Mick Harvey (Rabobank) is back this time interviewing some of the key players in Australia's supply chain.

SESSION SIX – WOULD YOU WORK FOR YOU?

Building a workplace culture that gets things done – Mandy Johnson (author & adviser)
Be-Kind – Dr Mike Paros (US lecturer, consultant and vet)
Creating culture at Coomboona – Dan Brown (Moxey Farms)
Sexual harassment in the farm workplace – Tiffany Davey (Yorkrakine)
Panel discussion: Mandy Johnson, Dan Brown & Tiffany Davey

SESSION SEVEN – FINDING STRENGTH

Out of adversity comes remarkable things – Seline Win Pe
Young farmers 'finding their why' – three young farmers Aaron Thomas, Rachael McGrath and Rose Philipzen share their journey of adversity to the end of the tunnel.
The Perfect Pitch – six finalists showing us why dairy matters & winner announced.

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Dairy Australia

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Supporting decision making across dairy

By **David Nation**
Managing Director
Dairy Australia

Key points

- ✔ Range of new initiatives to help farmers with decision making
- ✔ Our Farm, Our Plan roll-out in January
- ✔ Draft Dairy Plan available for feedback

Our Farm, Our Plan equips all Australian dairy farmers to document long term goals via a simple planning process involving all decision makers in a farm business.

IN this issue of the *Australian Dairyfarmer*, we're continuing our focus from the previous edition on Dairy Australia's work supporting informed decision making by farmers, industry and consumers.

The draft Australian Dairy Plan published in December has numerous references to helping farmers make more informed decisions, in order to improve profitability and better manage risk — from business planning through to transparent milk pricing.

One example is the 'Our Farm, Our Plan' initiative being rolled-out in the New Year, which has the objective of equipping all Australian dairy farmers to document their long-term goals and put plans in place to achieve them. It uses a simple planning process that involves all the decision makers in a farm business, creating a plan on a single page that everyone owns and which can be shared and used to track progress. The case studies in this issue feature a couple of farms that have been successfully piloting this new approach.

With the concern around water resources and producing the most feed for every megalitre of water, Dairy Australia will also launch its new flagship project in irrigation in January. We received a Rural R&D for Profit grant from the Commonwealth government to work closely with the cotton, rice, sugar and grains industries on the Smarter Irrigation Project 2. A related article shows how farmers can use this technology to maximise efficient water use.

Benchmarking is another essential business skill, and it is pleasing to see the use of DairyBase increase each year. Since it was created in 2015, DairyBase now has 1800 dairy farmer users. I encourage everyone to check it out, and you can also discuss how you might get the most out of it with your accountant. Once you've loaded up your information you can identify opportunities to drive profit and manage risk through a series of reports and forecasts. Comparative analyses can be generated according to farm size, region and production system.

'Dairy Australia will launch its new flagship project in irrigation in January.'

A feature on herd decision making includes timely articles on our resources for helping to keep cows cool during the hot summer months and tips for maintaining milk quality while drying-off the herd. There's also an article on seasonal decision making and best practice for cropping in late summer to early autumn, with a focus on crop silage.

I'm often asked what Dairy Australia is doing to address confusion with the use of "milk" to describe plant-based alternatives. We provide an update on page 47 that includes how we are working with dairy organisations across the globe to create separate categories for dairy and plant alternatives through a regulatory as well as communications approach — so that consumers stay informed about the health and nutritional benefits of dairy.

The draft Dairy Plan is now available for feedback, and I encourage everyone to consider how it can be enhanced and what further initiatives can help deliver on the commitments. It is a great opportunity to build on the momentum that has been created from all of the regional engagement in 2019. The coverage across this edition will bring you up to speed with the key developments.

AGM

Thank you to everyone who attended our annual general meeting in November at Lardner Park in Gippsland and also those who joined via a live webcast. It was fantastic to showcase some great features of Gippsland, including world class innovation at Ellinbank. The feedback on this event has been really positive. Please see a summary of the day via this link to the AGM page on our website: <https://www.dairyaustralia.com.au/agm>.

New program helps farmers achieve goals

Key points

- ✔ New program from Dairy Australia
- ✔ Helps farmers develop a one-page list of long-term goals
- ✔ Farmers can then develop plans to achieve goals

A NEW program from Dairy Australia is helping dairy farmers to document their long-term goals on a single page and put plans in place to achieve them.

'Our Farm, Our Plan' has been developed by Dairy Australia with support from Dairy NZ and the Gardiner Foundation and is designed to help farmers answer some of the big questions, clarify business and personal goals, and prioritise what to do next.

For a 12-month period, farmers receive support to put their plan on a page and get everyone in their business on the same page.

Dairy Australia farm performance lead Neil Webster said research has shown that when goals were documented people's commitment increased and they were more likely to carry through with the actions needed to achieve their goals.

> ***'The program is freely available for dairy farmers and includes two key resources — the Farm Fitness Checklist and the Quickplan... . '***

"This process is applied in commercial organisations across the world because it makes things achievable and visible," he said.

"Our Farm, Our Plan gets people thinking longer-term and helps them to clarify their goals and prioritise what to do next.

"It also gets everyone in the business to be clear about and, hopefully, agree about their goals."

The program is freely available for dairy farmers and includes two key resources — the Farm Fitness Checklist and the Quickplan — which farmers will work through in a combination of group sessions and one-on-one sessions with consultants.

Farmers or discussion groups interested in participating in Our Farm, Our Plan and getting their Plan on a Page should contact their Dairy Australia regional team or visit the Dairy Australia website.

Details: **<dairyaustralia.com.au/OFOP>.**

Setting goals important for young couple

DAIRY Australia's 'Our Farm, Our Plan' program has given Chris and Alicia Drew an opportunity to lay the foundation for their business and personal goals early in their dairying career.

Chris and Alicia returned to farm with Chris's parents Peter and Alison four years ago where they milk 400 cows in a split-calving system at Nyora in Victoria's south Gippsland.

"I worked as an electrician and Alicia works as a paramedic," Chris said.

"We could have stayed in those jobs forever and lived a pretty cruisy life with weekends off, but we wanted to get ahead and grow our assets, which is something you can do quite quickly in the dairy industry."

Chris and Alicia were invited to be part of the Our Farm, Our Plan pilot in early 2019, an offer which they eagerly accepted.

The opportunity to think long term about what they wanted to achieve and how they would achieve it was a big factor in them getting involved, Chris said.

"When we decided to return to the dairy industry we had ideas about what we wanted to achieve but never wrote anything down, but from the discussions we had as part of the Our Farm, Our Plan process we came up with four focus areas which encompassed what we wanted to achieve," he said.

> ***'Often as farmers it's easy to get caught up too much in the day-to-day running of the farm, without taking time to think about the bigger picture.'***

"They were financial growth, job satisfaction, lifestyle and family.

"From that, we were able to map out how we would achieve those goals and put short and long-term plans in place to achieve them."

Chris said the Our Farm, Our Plan process had been the catalyst for much bigger discussions about the future, such as buying and leasing land, understanding what they could afford and talking to banks.

"Often as farmers it's easy to get caught up too much in the day-to-day running of the farm, without taking time to think about the bigger picture," he said.

"But each day becomes a week which becomes a month, a season, a year and all of a sudden years have passed and you haven't made any real progress.

"Not enough people actually plan their outcomes and they just end up rolling with whatever ends up happening.

"It's also forced us to make decisions not only about our farming future but what we want our lifestyle to look like.

"For us, we have found using both the Quickplan and Farm Fitness Checklist provided as part of Our Farm, Our Plan has been very beneficial, and putting our plan on a page means we've got it down on paper as a reference point.

"The workshops were great and were run in the middle of the day so you can squeeze it in between milkings, and the farm visit was done at a time that suited us.

"I think that small investment in time will be very valuable for us in the long run. We now have a vision of what we want our future to look like and have achievable steps in place to make it become a reality."

Our Farm, Our Plan creates a plan on a single page that everyone owns and which can be shared and used to track progress.

Goals refresher a worthwhile exercise

THE opportunity to revisit and refresh goals they had set earlier in their dairying career as part of Dairy Australia's Our Farm, Our Plan program was too good to pass up for Darryl and Trudi Hammond. The Hammonds farm at Buln Buln in Victoria's Gippsland where they milk 430 cows in a pasture-based system.

They had been involved in a program similar to Our Farm, Our Plan with a private company about 15 years ago, which they saw as a valuable experience in documenting goals and the processes they would implement to achieve them.

"Our Farm, Our Plan has been an opportunity for us to reinforce where we are going on our dairying journey and how we plan to get there," Mr Hammond said.

"Since our original plan 15 years ago, our goals had changed slightly in some aspects and a lot in others due to factors such as milk price, seasonal variability and our own health."

Broadly, the Hammonds' goals revolved around themes of financial security, family, having time away from the farm and remaining committed to the same ideals.

"There's no point in me wanting to grow the business if Trudi wants to get out, which highlights the importance of both of us being on the same page," Mr Hammond said.

'Yes, we are going ahead in leaps and bounds, but the program has also made us have other discussions and put an exit plan in place should any major issues arise.'

"The program has made both Trudi and I realise that despite how tough the last 18 months have been, we actually really enjoy what we do."

Being around like-minded couples in the industry as part of Our Farm, Our Plan — some older and approaching retirement, some younger and just starting out in dairying — has been a rewarding experience for the Hammonds.

"It is nice to get off the farm, be challenged and be immersed among other like-minded farmers," Mr Hammond said.

"For us, we are probably at the midpoint in our journey as both of us are about 50 years old. We have just invested heavily in a new dairy and bought more land and being involved in Our Farm, Our Plan made Trudi and I sit down and put things on paper again.

"Yes, we are going ahead in leaps and bounds, but the program has also made us have other discussions and put an exit plan in place should any major issues arise."

Mr Hammond said there was something in the program for everyone, no matter where they were at in their dairy career. "Some farmers might be floundering and not feeling good about the business in which case I think it's a good thing to sit down and have an open and frank discussion," he said.

"They don't delve dollar for dollar into the business or anything like that and there are people involved with the program who know the industry inside out.

"It would help anyone in that situation to set a direction. Alternatively, for other farmers who might be feeling more motivated it would help them to set goals and put plans in place to achieve them."

Farmers safeguard welfare during summer

Key points

- ✔ Keeping cows cool a priority for northern Victorian farmers
- ✔ Planted trees to provide natural shade cover
- ✔ Invested in new infrastructure around dairy

NORTHERN Victorian dairy farmers Jack and Alec Young have planted more than 250 trees and installed new infrastructure to safeguard the welfare of their herd during warmer months.

The second-generation farmers milk a 420-cow mixed breed herd of Holsteins, Aussie Reds and Jerseys with a mostly autumn-calving pattern and annual pasture-based system.

After moving to their 392-hectare farm in Wyuna, Victoria, near Shepparton seven years ago, the Youngs noted a lack of adequate shade was putting their herd at risk of heat stress. The northern Victorian town can often see temperatures above 30 degrees Celsius, and last summer saw temperatures reach as high as 45 degrees.

Knowing dairy cows can be at risk of heat stress at temperatures as low as 25 degrees, the Youngs made informed decisions to give their herd some relief from heat and humidity.

"I just think the welfare of any animal in weather over 25 degrees is very important," Jack said.

"They really start to feel it and it's very noticeable — providing relief from heat stress should be a priority for all dairy farmers."

Starting with natural shade as their priority, the Youngs planted hundreds of trees in key paddocks throughout their property.

While the trees are not yet fully grown, the Youngs have already noted benefits to their farm and their herd.

"While the welfare of our herd is our first priority, planting more trees on our farm also helps make our farm more sustainable for the future," Jack said.

In addition to natural shade cover, the Youngs installed new infrastructure around the dairy shed to keep their cows cool during milking times.

They invested $30,000 to install shade sails that cover the milking yard, which reduces the risk of heat stress as the cows transition into sheds for their morning and afternoon milkings.

To complement their shade cover, the Youngs also use sprinklers to cool their cows even further, which operate on a water-saving cycle of seven minutes on and 15 minutes off during milking times.

"It's definitely worth the investment in shade cover just for the welfare component, and to minimise production losses during sustained heat periods," Jack said.

Wyuna, Vic, dairy farmer Alec Young keeping his herd cool before milking with shade sails and sprinklers.

"The fact is that the less your cows are at risk of heat stress, the more they're going to produce. It's got to make an impact on your bottom line as well."

Heading into the warmer months, the Youngs adjust their feeding routine and the timings of their milking to minimise the risk of heat stress and maintain production levels.

As the calendar heads into late spring, cows on a spring-calving pattern are separated from the rest of the herd and receive higher quality feed to maintain production levels, as cows use more energy in higher temperatures. With the addition of an automated drafting gate, Jack and Alec can easily put both herds together during the day for shade under the sails and separate them back into separate herds at night.

With the feed pad a short walk from the dairy shed, cows often walk back to the dairy to stand under the shade sails after being fed or drink from easily accessible water troughs.

"The cows love it — when it's 40 degrees, they spend a lot of time coming back and forth to the milking shed for a drink or for some shade," Jack said.

"We have troughs on the exit to the dairy, troughs on the feed pad, and we have one in every paddock, which we clean regularly so the cows have easy access to clean drinking water."

Jack and Alec will also adjust their milking times as the temperatures heat up — bringing their morning milking forward one hour, and delaying their afternoon milking by one hour, so milking occurs in lower temperatures where possible.

Looking to the future, the Youngs have plans to do a lot more to reduce the risk of heat stress. "We are currently looking into portable feed pad troughs to move around paddocks to utilise all tree lines and reduce feed waste," Jack said.

"We'll also plant a lot more trees — but we plan to do them as groups, rather than in a line, to give the cows more cover." D

Cool cows resources

ACCESS resources through Cool Cows Dairy Australia delivers a suite of resources to assist dairy farmers to make timely and seasonally relevant decisions for the health, welfare and productivity of their herds.

Dairy Australia's Cool Cows program uses the latest science to provide dairy farmers with practical information on how to reduce the impact of heat stress on cow productivity.

The Cool Cows heat stress booklet has received a 2019 update to bring farmers the most up-to-date information.

Access information and resources at <coolcows.dairyaustralia.com.au>.

Herd data key to dry cow decisions

Key points

- ✔ Uses herd test data to set mastitis management plan
- ✔ No longer uses blanket dry cow therapy
- ✔ Countdown resources help set antibiotic dry cow plan

GIPPSLAND dairy farmer Huw Evans slashed his expenditure on antibiotic dry cow therapy by 75 per cent while maintaining his low cell count by making informed decisions using herd test data.

The third-generation farmer milks 350 cows on 160 hectares in Bairnsdale, Vic. With a partial mixed ration system and a split-calving pattern, Mr Evans saw an opportunity to reduce his costs using more regular herd testing.

"We had always used blanket antibiotic dry cow therapy, but we noticed that a lot of our cows had consistently low bulk milk cell counts year after year," Mr Evans said.

'I always assumed it would take a lot of work to maintain a low cell count, but it just doesn't.'

"I figured it was pointless to give blanket antibiotic dry cow therapy and saw this as an opportunity to save some money."

Quick and easy herd testing

With a 60-unit rotary, Mr Evans said he was surprised how easy it was to conduct herd testing using electronic meters. He is now able to test his entire herd in an extra 30 minutes every two months, providing up-to-date herd data six times per year.

"I couldn't believe how easy it was to do herd testing and make decisions using the data," Mr Evans said. "Now I can maintain a low cell count herd and reduce my use of antibiotics."

As a result, Mr Evans now only treats one in four of his cows, reducing his treatment expenses while still maintaining an average bulk milk cell count of less than 100,000 cells/millilitre.

He even received a gold award in the 2018 Dairy Australia Milk Quality Awards as a top 100 dairy farmer nationwide for milk quality.

"I always assumed it would take a lot of work to maintain a low cell count, but it just doesn't," Mr Evan said.

Identifying selection criteria

Using resources available to all dairy farmers through Dairy Australia's globally recognised Countdown program, Mr Evans identified the key steps he would take to select the cows in need of antibiotic dry cow therapy.

He also consulted with his veterinarian to tailor the advice to his farm and

Gippsland dairy farmer Huw Evans on his farm in Bairnsdale, Vic.

determine a multi-step approach appropriate for his herd.

"The first step is removing the cows who have consistently low cell counts and no clinical cases of mastitis — they're easy to identify using herd data, and they're the first we cross off the list," Mr Evans said.

Countdown resources then recommend treating any cow with a history of clinical mastitis.

Mr Evans will also treat any cow with a cell count of more than 80,000 cells/ml, even if she does not have a history of clinical mastitis. All cows receive internal teat sealants even if they do not require dry cow therapy.

Focusing on hygiene

For Mr Evans, informing his decision-making using more regular herd testing has been complemented by a strict focus on hygiene during dry cow therapy.

Prior to applying dry cow treatment, he thoroughly cleans each teat and uses alcohol wipes to administer the treatment and the teat sealant, further reducing the risk of mastitis and keeping his cell count low.

Reducing antibiotic resistance

COMBATING antimicrobial resistance (AMR) is a key global health and economic priority for Australian agriculture.

Without significant intervention, antibiotics may not be able to treat some routine infections because bacteria will develop the ability to survive in their presence.

The Australian Dairy Industry Sustainability Framework notes antimicrobial resistance as a priority for Australian dairy farmers, with a target of using antibiotics responsibly — as little as possible, as much as necessary — to protect the health and welfare of our animals.

Access more information at <sustainabledairyoz.com.au>.

Access resources through Countdown

HERD decision-making is crucial to the long-term viability of dairy farm businesses.

Decisions made today can have lasting impacts on farm profitability and sustainability.

Dairy Australia provides globally recognised programs, training and resources to dairy farmers that enable them to make critical decisions at key points throughout the season.

Through its Countdown program, Dairy Australia works with dairy farmers to provide guidelines and training on mastitis prevention and control, including practical tips for adopting selective or part-herd dry cow therapy.

Access the resources at <dairyaustralia.com.au/mastitis>.

Farmers lift performance using DairyBase

Key points

- ✔ Milking 100 cows on 80 hectares in western Victoria
- ✔ Use DairyBase to analyse farm performance
- ✔ Improved home-grown feed consumption

Wes and Belinda Lenehan on their Weerite, Vic, dairy farm.

WESTERN Victorian dairy farmers Wes and Belinda Lenehan have boosted performance by 1000 litres per cow in the last five years — and say DairyBase has played a key part in this success.

The Weerite, Vic, dairy farmers milk a 100-cow herd on 80 hectares, after previously operating a larger family farm until 2014.

Now five years on from reducing their herd size and starting their own operation, Mr and Mrs Lenehan attribute their ongoing profitability to making better informed decisions using tools like DairyBase.

Reducing cost of production

Lifestyle and profitability are major drivers for Mr and Mrs Lenehan, and they say it is crucial for them to measure and compare their financial and feedbase performance. "Decision-making — and financial decision-making in particular — is crucial for us on a daily basis because we have such a strong focus on keeping our costs in check," Mr Lenehan said.

"Every day, we are making major operational decisions about feed costs — trying to grow as much grass as possible so we can avoid buying in feed and in turn keep our costs down.

"We use DairyBase to help make those decisions — it allows us to track our feed costs using a number of key performance indicators."

The Lenehans analyse their performance on a quarterly basis, using metrics such as pasture growth per hectare and comparisons of their fertiliser use and rainfall over time.

Using this data, Mr and Mrs Lenehan have been able to optimise their fertiliser use and reduce the ongoing cost of bought in feed.

"Using DairyBase data, we made the decision to use extra fertiliser to grow more grass — that has in turn made us more profitable as we've seen year-on-year reductions in our bought in feed costs," Mr Lenehan said.

Feeding their cows more home-grown fodder has in turn resulted in a significant improvement to herd health and production, with an increase of 1000 litres per cow over the past five years. "That's just from better managing and tracking our pasture growth and monitoring our performance using DairyBase," Mr Lenehan said.

Comparing performance

For Mr and Mrs Lenehan, using DairyBase to compare their farm to others in the region has been crucial to tracking their performance.

Referring to other regional data sets as a benchmark, the Lenehans have set targets for themselves to improve their pasture growth and profitability.

"It's been very useful for us to see how others are tracking in our region," Mr Lenehan said. While their farm and herd size are smaller than most others in the region, Mr and Mrs Lenehan use data like milk solids per hectare to compare their farm to larger farms.

"This means that even though I'm running a smaller operation, there is data that's relevant to compare, no matter your farm size," Mr Lenehan said.

Accessing training

Through their local Regional Development Program, Mrs Lenehan has undertaken training to upskill and better understand how to be better organised and collecting the right information to use DairyBase to their advantage. For Mrs Lenehan, the Farm Business Fundamentals course she accessed through WestVic Dairy improved her knowledge of how to pull together farm information.

She has also developed her understanding of how certain information can be accessed via DairyBase to inform decisions.

"Farm Business Fundamentals gave us a sound knowledge of the basics of

What is DairyBase?

DAIRYBASE is a web-based tool that enables dairy farmers to securely store their annual farm data, and measure and compare their farm business performance over time.

Since it was created in 2015, DairyBase now has more than 2500 users — of which 1800 are dairy farmers — jointly managing more than 10,000 unique data sets.

Dairy farmers and their advisers are equipped to create reports and forecasts and identify opportunities to drive profit and manage risk.

Comparative analyses can be generated according to farm size, region and production system.

Register now at <dairybase.com.au>.

running the business — from there I picked up more as I went," Mrs Lenehan said.

"Now I know why I'm entering certain information, and how I should use that information when it comes to our farm business."

Dairy farmers can access Farm Business Fundamentals and Dairy Farm Business Analysis training by contacting their regional team or by visiting dairyaustralia.com.au/events-calendar. Regional contact details can be found inside the back cover of this magazine.

Irrigation for productivity and profit

Key points

- ✔ WA farmer part of irrigation optimisation project
- ✔ Using moisture probes to monitor soil moisture
- ✔ Scheduling and allocating irrigation to maximise plant growth

Michael Twomey is taking part in a project to optimise use of his farm's irrigation system.

WESTERN Australian dairy farmer Michael Twomey is taking part in a new program to better assess his irrigation system performance and optimise pasture and crop yields. His 220-hectare dairy farm in Dardanup is one of 46 sites on dairy, cotton, sugar, grain and rice farms across Australia participating in the Smarter Irrigation for Profit 2 until 2022.

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

Having built his 420-cow dairy and 100ha system from scratch in 2016, Mr Twomey said there was still plenty of scope to tweak and maximise his water productivity and pasture yields over summer.

Mr Twomey said he joined the project because he felt he could irrigate more efficiently to match his sandy loam soil requirements and the optimisation project would help inform his decisions.

"With moisture probes and the app on my phone I can make much better use of my dam water and get better plant growth, and ultimately save money on fodder," he said.

Supporting Mr Twomey, and fellow trial participant Brad Boley, Scott River, WA, for the duration of the trial is Western Dairy consultant project coordinator Kirk Reynolds.

Mr Reynolds said the trial would show dairy farmers how to correctly schedule and allocate the appropriate irrigation amount over the summer period using advanced soil moisture technology.

"Water-stressed spring pastures don't recover so knowing when to get water on early should be the first step," Mr Reynolds said.

"What we don't see on many irrigated farms is the astute use of soil moisture probes and a proper analysis of the mechanics of the system.

"Irrigators that use sub-par functioning systems and do not understand how to optimise their water and power use, are potentially turning a profitable fodder source into one that costs them.

"What works for one farm system may not be the same as the one down the road. Do not underestimate the importance of knowing the input costs and opportunities to reduce them when it comes to smart irrigation."

Mr Twomey said he also wanted to see if he could grow more ryegrass and chicory over summer using less water and to potentially test other water-efficient pasture species.

"I want to know whether I'm using the best plant varieties on my four pivots and be able to grow more water-efficient pastures and improve my yields as well," he said.

Western Dairy will use CDAX technology to regularly measure pastures over the growing season and map the correlation between soil moisture, water application and pasture growth.

Dairy Australia soils and irrigation lead Cath Lescun said the project aimed to increase the water productivity of more than 4000 irrigated cropping and pasture agricultural enterprises by 10 to 20 per cent.

"The optimisation site is focused on managing the yield gap via best practice irrigation extension and driving faster adoption of good practice irrigation," Ms Lescun said.

"Remedial actions will be monitored and dairy farmers will be regularly informed of our progress through field days, workshops, case studies and social media updates."

For further information visit <dairyingfortomorrow.com.au/tackling-specific-issues/water/smarter-irrigation-for-profit/>.

Making the most of water in dry region

Key points

- ✔ Installed moisture probes to aid irrigation scheduling
- ✔ Helps better manage maize crop varying moisture requirements
- ✔ Makes most of limited water availability

NORTHERN Victorian irrigators Andrew and James Tyler are using soil moisture monitoring to get the best return for every drop of water this season.

The Tylers, who farm at Tongala, grow maize under flood irrigation with plans to sow about 60ha this year.

Maize silage forms an important part of their herd's diet, accounting for around 15 to 25 per cent of their daily feed requirements throughout the year. Despite the cost of water this season, for the Tylers it stacks up economically to grow their own maize.

For the first time, they last year installed two moisture probes in their maize crop to assist with irrigation scheduling. As a result, they had more confidence in their irrigation decisions and felt they used water more efficiently, especially in starting up and finishing the crop.

The Tyler family on their dairy farm in Tongala, Victoria.

Soil moisture monitoring provides real-time data to track soil moisture and crop water use to identify irrigation requirements. Using soil moisture monitoring last season, the Tylers worked with their agronomist to fine-tune the timing, frequency and quantity of water applications to correlate with crop water needs.

Maize is a significant investment and requires water and nutrients at critical stages through the growing cycle. The growth of maize slows as soon as the plant becomes water stressed or waterlogged, having a direct impact on crop development and yield potential.

"The benefit of having the probes in last year was that even in extreme heat, when the plant appeared to shut down, you could be confident that there was moisture in the soil," Andrew said.

"In the past, we looked at the visible signs in the plant but now, with the probes in, we can see what's really there."

Unlike pastures which have a fairly consistent water demand, the water requirement for maize increases rapidly from about two weeks prior to tassel and ear appearance until about two weeks after full silk, before dropping off. Soil moisture probes can be used to track the crop's root development and water demand.

In conjunction with climate indicators and crop monitoring, data from their probes enabled the Tylers to make timely responses to changes in plant water requirements.

"We used the probes to monitor water levels and let the soils dry out towards harvest when plant water needs really drop off," Andrew said.

"Having too much water on the site

Soil moisture chart example

THIS soil moisture chart was taken from a demonstration site in southern NSW where maize was grown under flood irrigation. It shows the weighted average soil moisture content to a depth of 50 centimetres.

The vertical axis of the chart is representative of the percentage of moisture in the profile, with near-saturation (80 per cent) at the top and near-depletion (25pc) at the bottom.

The coloured zones are indicators of moisture availability, blue representing 'excess', green representing 'good', and pink representing 'stress'.

This example shows three irrigations, indicated by the spikes in the trendline. Soil moisture depletion between irrigations is represented by the dips in the curve. The flattening of the curve is indicative of the slowdown in water use.

This example shows crop water use slowing significantly once the soil moisture falls below the refill point, generally the level at which irrigation is applied. The subsequent irrigation occurred earlier, reducing water stress on the plant as it came into critical development stages.

Figure 2: Average moisture chart.

The chart also shows that the third irrigation didn't fill the profile to the same level as the previous two irrigations.

This could be due to the sealing of the soil which was observed on the surface.

Access resources to inform decisions

CONDITIONS remain variable across the country, with high farmgate milk prices challenged by ongoing cost pressures and a dry weather outlook.

Dairy Australia has created a range of resources to assist farmers to make the most of the current season, no matter their farm circumstances.

Visit <feed.dairyaustralia.com.au> to access tailored information around effective feed and management options to help inform on-farm decisions.

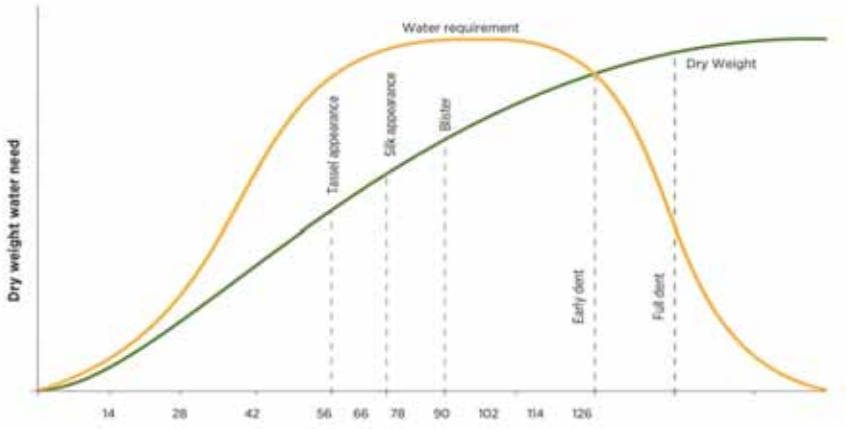

Figure 1: Water requirements of maize (dry weight gain) taken from Pioneer Seeds Corn Growers Guide.

can delay the harvest, especially if you get rain."

The Tylers had probes installed on two different soil types — a sandy loam and a clay soil — so they could effectively manage different sites. Soil moisture probes are only useful if they are located in a representative soil type and area of crop.

Soil moisture probes, generally installed 80 centiemtres to one metre deep for maize and providing measurements in increments of 10cm, can be used to track plant root development and see how the plant is extracting water from different depths of the soil.

Andrew said the probes provided the information they needed to strategically reduce plant-available moisture in the early stages of crop development to encourage roots to extend deeper into the soil profile.

"We wanted the roots of the plant to get down to chase moisture," he said.

"By encouraging the plant roots and the moisture to move down the profile, it helps to reduce hard panning on the soil surface, which we often get with flood irrigation.

"Using the probes gave us more confidence to spread the irrigations. Given that water's so expensive, we don't want to irrigate when we don't have to." D

Helping people understand dairy benefits

Key points

- ✔ Rising trend of consumers choosing plant-based alternatives
- ✔ Consumers incorrectly believe these are nutritionally equivalent to dairy
- ✔ DA advertising through Google search to direct consumers to Dairy Matters website

FOR the past decade there has been a rise in consumers choosing plant-based milk alternatives. During this time there has been some confusion around the nutritional and health benefits of milk, cheese and yoghurt.

While only three per cent of consumers purchase alternatives exclusively and the general sentiment towards trust in dairy is high, the shift continues in a gradual upward trend.

As a result it's important for consumers to understand the naturally nutritious health benefits of dairy and how they differ from plant alternatives.

Dairy Australia is supporting global efforts to create separate categories for dairy and plant alternatives through a regulatory as well as communications approach.

'It comes as a concern that over a third of consumers incorrectly believe that milk alternatives are just as nutritious as dairy milk.'

Some of the products marketed as alternatives to dairy, include those made from soy, nuts, coconut, rice, oat, pea and newer sources such as hemp and quinoa. These products have extended beyond 'milk' and into 'yoghurt', 'ice-cream' and 'cheese'.

It comes as a concern that over a third of consumers incorrectly believe that milk alternatives are just as nutritious as dairy milk (Lewers Research, Dairy Australia Trust Tracker, September 2019). While some products, particularly fortified beverages, do a reasonable job of mimicking the core nutritional elements of milk, others bear little nutritional resemblance.

This is alarming for dairy industries and government authorities around the world as not only does it create consumer confusion and undermine purchasing decisions, it also reflects a lack of 'fairness' in the current marketing strategies being adopted by the plant alternatives.

Dairy Australia is directing consumers through Google Search and other paid advertising to its You Ask, We Answer <https://www.dairy.com.au/dairy-matters/you-ask-we-answer> web hub to learn more about dairy and it's unique attributes that set it apart from the rest.

Other activities include engaging media and key influencers to help promote the benefits of dairy foods among consumers. D

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Ayrshires to make a splash at IDW

Key points
- ✔ Event to run January 19-23
- ✔ Ayrshires to be feature breed
- ✔ World Ayrshire Conference tour to visit IDW

By **Carlene Dowie**

THE Ayrshire breed will be making a splash at this year's International Dairy Week with hundreds of breeders from around the world descending on the event.

Ayrshires will be the feature breed at IDW to coincide with the World Ayrshire Federation Conference, which is being held in Australia for the first time in almost 30 years.

The conference will be built around an 18-day tour from South Australia to NSW with IDW the main attraction. IDW will run from Sunday, January 19, to Thursday, January 23, at Tatura, Vic.

IDW event manager Robyn Barber said entries for the Ayrshire show were up significantly on previous years to about 175, helping to drive an overall 10 per cent lift in numbers for IDW.

The program has been rejigged to give Ayrshires pride of place on the Tuesday. The Ayrshire show will run in the ring by itself on the Tuesday morning, while the Illawarras and Brown Swiss will run later on the Tuesday afternoon and the Guernseys will share the ring with the junior Jersey classes on the Wednesday morning.

"Given that is their (Ayrshire's) special year and their global conference and they've got at least 100 international visitors and many more Australian visitors coming along ... we felt it was only right to give them the glory of the show ring in their own right," Ms Barber said.

An Ayrshire sale will be one of four to be held at the event in a revamped sales program.

Ms Barber said the Jersey sale was being done a little bit differently this year with Declan Patten taking on responsibility for it, together with Dairy Livestock Services.

"He and his group of people are injecting a bit of difference in it and certainly are ramping it up to be something quite spectacular, which is fantastic," she said. The World Wide Sires Holstein sale and a Guernsey sale will also feature.

The Ayrshires are the feature breed for 2020 and have attracted a large number of entries.

'With everything that's been hitting dairy farmers for a number of years now, to get over a 1000 entries again in a very tough year speaks volumes for the exhibitors.'

Ms Barber said the increase in show entries to about 1015 entries was wonderful, particularly given the difficulties the industry was facing.

"With everything that's been hitting dairy farmers for a number of years now, to get over a 1000 entries again in a very tough year speaks volumes for the exhibitors," she said.

Exhibitors would come from all states in Australia and included a sprinkling of first-time exhibitors.

The machinery exhibition is also being changed with a move from the oval to a space between the oval and the main show shed.

"It is really to bring it closer to the main flow of people so as people walk through that area it will give those businesses a bit more closeness and proximity to the main action," Ms Barber said. "There won't be as many big machines — but they will flow out on the oval."

The increased sales program has also prompted a timetable change for the Power of Women event, which will now be held on the Monday night.

World Ayrshire Federation Conference

Australian Ayrshires president Scott Braendler, Jervois, South Australia, said about 120 overseas visitors from the United States, Canada, New Zealand, South Africa, Zimbabwe, Sweden and the United Kingdom were taking part in the conference tour.

The tour would include eight herd visits as well as IDW.

Mr Braendler said the Ayrshire sale would be special. One had not been held at last year's IDW to ensure a high quality sale this year. "We have picked out 20 of the best pedigrees that were submitted to go into the sale, from most of the leading herds around Australia," he said.

A silent embryo auction will also be held as part of the conference, featuring embryos from five countries. It will run from the start of the tour until the Wednesday of IDW and successful bidders will be announced at the conference dinner to be held at IDW. Exhibitors and helpers at the show will ▶

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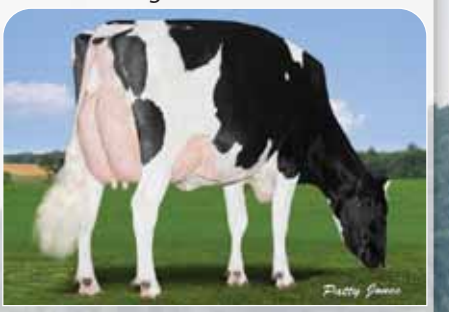

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attend the dinner, along with the tour participants.

Mr Braendler said the conference, which is held every four years, would be great for the breed in Australia.

Ayrshires were a good all round breed, he said. Ayrshire cows were low maintenance with good health traits, low somatic cell counts and high butterfat and protein percentages.

But the breed struggled sometimes, as did other minor breeds, in trying to get semen companies to take the breed to market, but the breed society was trying to do more of the marketing itself. The embryo sale was a plus, opening up the opportunity for Australian embryo packages to be sold to NZ or the UK.

The breed was also working on trying to get genomic breeding values. The small numbers made it difficult to have a large enough database but the Australian society was working with NZ and the World Ayrshire Federation was also working on genomic development. D

One of the highlights of International Dairy Week are the events for young people.

2020 program of events

Saturday, January 18

2.00pm	Show ring open for youth to practice leading Blackmore & Leslie Complex

Sunday, January 19

9.30am	Non-Denominational Church Service and Morning Tea Blackmore & Leslie Complex
12.00pm	Holstein Australia Victoria Youth Challenge Trials Blackmore & Leslie Complex
3.00pm	VASA State Junior Judging Final Blackmore & Leslie Complex
6.00pm	Welcome to IDW BBQ Wilson Hall

Monday, January 20

8.00am	ABS Australia/Ridley All Breeds National Youth Show Blackmore & Leslie Complex
9.30am	IDW Seminars The Ballantyne Complex
3.00pm	The IDW Youth Showmanship Classes Blackmore & Leslie Complex
5.00pm	Power of Women in Dairying (POW) Function Wilson Hall

Tuesday, January 21

8.00am	Australia's National Ayrshire Show - Feature Show 2020 Blackmore & Leslie Complex
9.30am	IDW Seminars The Ballantyne Complex
3.00pm	Australia's National Illawarra Show Blackmore & Leslie Complex
3.00pm	Australia's National Brown Swiss Show Blackmore & Leslie Complex
6.00pm	IDW World Conference Ayrshire Sale Blackmore & Leslie Complex
6.30pm	IDW National Herd Improvement Association Dinner Cellar 47, Shepparton
8.00pm	IDW Global Impact Supremacy Jersey Sale Blackmore & Leslie Complex

Wednesday, January 22

8.00am	Australia's National Guernsey Show Blackmore & Leslie Complex
8.30am	Australia's National Jersey Show Blackmore & Leslie Complex
9.30am	IDW Seminars The Ballantyne Complex
11.30am	IDW Elite Guernsey Sale Blackmore & Leslie Complex
1.00pm	National Jersey Show Continues Blackmore & Leslie Complex
7.30pm	IDW World Wide Sires Evolution Sale Blackmore & Leslie Complex

Thursday, January 23

8.00am	Australia's National Holstein Show Blackmore & Leslie Complex
8.00am	Dairy Industry Leaders Breakfast The Ballantyne Complex
11.30am	IDW Interbreed - Junior Champion Presentation Blackmore & Leslie Complex
12.00pm	The MaxCare Challenge Blackmore & Leslie Complex
1.00pm	National Holstein Show Continues Blackmore & Leslie Complex
2.00pm	Presentation of Lex Bunn Memorial Award Blackmore & Leslie Complex
3.30pm	IDW Interbreed - Intermediate Champion Presentation Blackmore & Leslie Complex
5.30pm	Presentation of Australia's Grand Champion Blackmore & Leslie Complex

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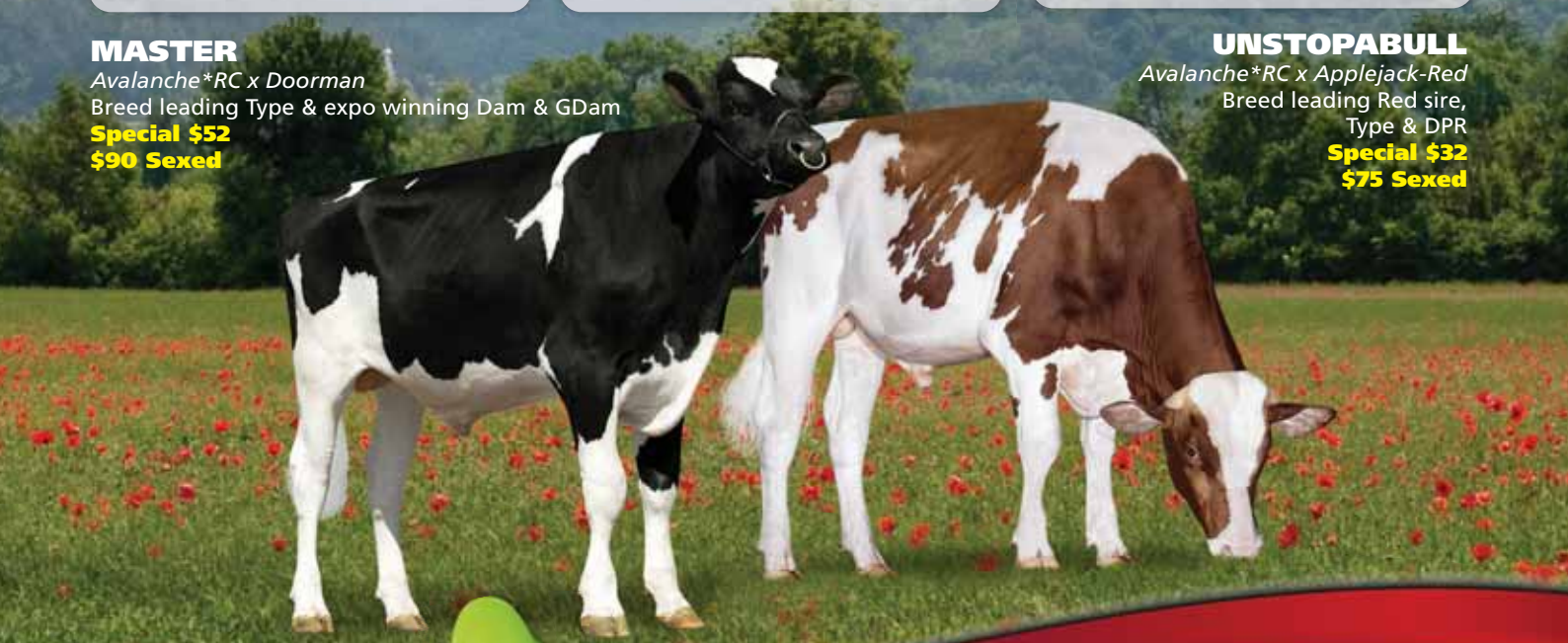

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Experienced judges for dairy shows

INTERNATIONAL Dairy Week has again attracted a line up of high-quality judges from around the world.

ABS Australia/Ridley All Breeds National Youth Show

Waylon Barron.

Waylon Barron is 37 years old and hails from Cambooya, on the Darling Downs of Queensland. The Barrons' Ardylbar operation is a family affair, which includes Mr Barron's parents Adrian and Sheryl, brother Tyler, wife Tash and children Hunter, Ayce and Blaze. Currently the milking herd sits at around 180 animals, the major breed being Holstein with growing Jersey numbers. There are a handful of Illawarras owned in partnerships which call Ardylbar home.

Ardylbar has exhibited at the Toowoomba Royal Show, the Queensland Dairy Showcase, the Royal Queensland Show and at Holstein and Jersey Queensland feature shows taking home numerous breed, supreme champion, most successful exhibitor and breeder titles along the way.

Recently success has been awarded to the few Illawarra animals Mr Barron owns in partnership, notably the junior champion Illawarra, which moved forward to win the supreme junior champion title at Brisbane Royal Show 2019.

Through other partnerships, Mr Barron has also co-owned and exhibited class winners and grand champions in the Holstein and Jersey breeds at previous International Dairy Week events.

Mr Barron has had the pleasure of travelling to judge On-Farm Challenges across Australia for Holsteins and Jersey breeds and breed judging roles have taken him around Queensland for major shows.

IDW Sheri Martin Youth Showmanship Classes

Ben Govett.

Ben Govett, from Dingee in Victoria is no stranger to the IDW show ring. Milking 250 cows in the northern Victorian irrigation district, Mr Govett and his family have been to every IDW since it started.

Mr Govett is co-owner of current and two-time IDW supreme champion Sunstorm. Cows from Bendara Dairies have won grand champion in Australia's National Brown Swiss Show for the past five years while the stud has won premier exhibitor and breeder for the past nine years.

Mr Govett has judged cows in all states of Australia and in New Zealand. He has also judged state and national finals for handler competitions.

Australia's National Ayrshire Show

François Beaudry.

François Beaudry, Canada, has always had a deep passion for the Ayrshire breed. Based in Quebec, Canada, he is the co-owner, with his wife, of the Des Prairies herd, which has won many awards in that field.

Mr Beaudry's farm is known around the world for the quality of the animals it produces with many all Canadians titles to its record.

A great satisfaction is to sell individuals that bring success to their new owner such as Des Prairies Toutou, which won six grand champion titles at the Royal Agricultural Winter Fair of Toronto. Mr Beaudry has also won the master breeder title twice.

He is a member the Canadian Ayrshire Association and has served as chairman of the board of directors in 2015 and 2016. He was also the Canadian delegate on the world Ayrshire federation for the past years.

Mr Beaudry is an experienced judge and has judged dairy shows in many countries including Canada, the US, Columbia, Finland, Sweden, South Africa and New Zealand.

Australia's National Illawarra Show

Greg English.

Greg English lives in Malanda in Far North Queensland, where his family were pioneers of the region. The Eachamvale Illawarra stud was established there in 1908.

Mr English worked on the family farm all his life and in 2001, he and his wife, Bronwyn bought out his parents and took over the Eachamvale stud.

Since then he has focused on breeding quality, high production Illawarra cows with good udders. He now milks a predominately Illawarra herd of 180-200 cows.

Stud dairy cows and showing have always been a huge part of Mr English's life, but in conjunction with this a fair bit of time is also devoted to off-farm activities. He is currently the federal senior vice president of the Illawarra Cattle Society of Australia and vice president of the Queensland branch, president of the Malanda Show Society, along with being a ▶

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Australia's National Guernsey Show

Grant Liebelt.

Grant Liebelt grew up in Echunga in the Adelaide Hills, SA, where, after leaving Urrbrae Agricultural School, he worked with his family on their dairy farm where they bred stud Guernseys under the 'Dalrymple' prefix.

He became interested in showing cattle when he was around the age of 17, entering Guernsey cows in the Tanunda Feature Show and Royal Adelaide Show. Although changing to the Holstein breed in future years (under the Grantley prefix), Mr Liebelt maintained an interest in the breeding development of the Guernsey breed.

After receiving Master Breeder status in 2016, Grant retired from dairying with a herd dispersal in 2017, but continues to endeavour to breed top quality progeny from cattle he retained, who along with his daughter Bridget's animals are housed at the Altmann family's Blackwood Park Illawarra and Holstein Stud in Murray Bridge, SA.

Australia's National Brown Swiss Show

Kevin Ziemba is employed as the eastern USA manger for STgenetics. In this position he manages the eastern USA sales team and specialises in genetic and reproductive tools that aid in dairy profitability. Mr Ziemba also has a role at STgenetics in the sire development department assisting in matings, acquisition and program direction.

Mr Ziemba is the coach of the Cornell University dairy judging team that has been a top five finishing team at World Dairy Expo for the past seven years.

Prior to joining STgenetics, Mr Ziemba has worked in the AI industry for 17 years as an employee manager,

Kevin Ziemba.

trainer and on-farm technical specialist.

Mr Ziemba and his wife Barb and son Mason enjoy breeding and developing good cattle. They have more than 40 head that they own under the ZiemBarbWay (ZBW Genetics) farm name. They have focused predominantly within the Holstein breed having bred over 60 EX cows, numerous All-American, Jr All-American and All-NY award recipients. They also work with a small group of Jerseys and Brown Swiss and have bred All-American nominees in all three breeds.

Mr Ziemba has also had the privilege to judge cows throughout the US and Canada, judging numerous state, national and regional shows and has served as judge of the Hokkaido National Show in Japan.

Australia's National Jersey Show

Chris Hill.

Chris Hill resides in Thurmont, Maryland, US, with his wife Jennifer. Together they own and operate MD-Hillbrook Sales & Service, a sales and auctioneering business. With a passion for the show ring, they maintain a small inventory of elite show cattle and have bred/owned 50+ All American nominations in the past 10 years.

Mr Hill manages and assists with about 35 sales a year throughout North America including the March Madness Sale Series, which debuted in 1996. In 2017 he co-managed his first "virtual" sale, Music City Celebration. This sale "celebrates" all facets of the registered dairy cattle business and engages people in a fun location.

Mr Hill has also had the honor of assisting with the National Sales of the Holstein and Jersey breeds. His true passion is auctioneering, which has allowed him to work with many people in the industry from herd dispersals to elite consignment sales.

He is an accomplished judge. His resume includes serving as the official for many county, district, state and national shows in the US, Canada and South America.

In 2014 he went to Uruguay to serve on a panel of coaches for the South American Judging Conference and returned this year to judge their National Show.

Australia's National Holstein Show

Yan Jacobs.

Yan Jacobs from Cap-Santé, Quebec, Canada, has been appointed the judge of Australia's National Holstein Show in 2020. Mr Jacobs was born and raised on Ferme Jacobs. He now owns this farm with his father, Jean Jacobs and his sister, Ysabel Jacobs.

Jacobs Farm milks 215 cows. Jacobs Farm has been eight times premier breeder at World Dairy Expo in Madison and also seven times at the Royal Winter Fair in Toronto. They have received 94 All-Canadian nominations and 60 All-American nominations.

Mr Jacobs's judging roles have taken him around the world. In 2018 he judged the Utah Show and the Wisconsin Spring Show. He has also judged numerous county shows in Quebec.

In 2016 Mr Jacobs was the associate judge at World Dairy Expo in Madison. As well as farm responsibilities, Mr Jacobs has a full-time job raising his five children. D

Committed to bringing best to Australia

Key points

- ✔ Genetics company imports embryos from around world
- ✔ Owns cows in eight different countries
- ✔ Sold $250,000 record-priced heifer in 2017

By **Jeanette Severs**

DECLAN Patten is a dairy farmer who owns cows in eight countries, soon to be nine. But he doesn't own a dairy platform and he doesn't milk a cow.

Mr Patten, of Sale, Vic, has a unique business model focused on genetics and breeding. As well as his own company, Lightning Ridge Genetics, he works globally for Cutting Edge Genetics, which sees him regularly in North America and travelling in Europe.

"I absolutely loved Italy when I travelled there as a young man, so I said, let's buy a cow there. It gives me the opportunity to travel the world," Mr Patten said.

He registered the Lightning Ridge suffix in October 2001 and runs his business in partnership with wife, Ellie Patten. The couple have two children, Eva, 4, and newborn Hendrix.

Mr Patten grew up on a dairy farm at Maffra, Vic, that included his parents' registered stud, Ryanna. His father Shane's passion and expertise for breeding Holstein cattle rubbed off.

"I was born into the genetics side of dairy and got my passion from dad, who was a really great breeder of stud Holstein cattle," Mr Patten said.

As a young adult, about eight years ago, he began working in America, at Butlerview Farms in Illinois; his first role was milking and general animal husbandry; 12 months later he was working in the genetics and breeding side of the business.

"At that time, Butlerview Farms was the number one genetics business in the world. Working there changed my path," Mr Patten said.

"I had incredible access to the best cows in the world and I thought I wouldn't be doing my country justice and taking advantage of the situation, if I didn't access these genetics.

"I started flushing cows and sending embryos back to Australia. I really started accelerating that side of our business — importing embryos to Australia."

Declan Patten at the Butlerview Farms, where he worked in the US, with Chassity, which sold for $US1.5 million.

Declan and Ellie own 150 dairy cows scattered across eight countries. Some of those cows are owned in partnership with other people. They also have a herd of Angus-recipient cows grazing on a farm at Warragul, Vic.

'I was born into the genetics side of dairy and got my passion from dad, who was a really great breeder of stud Holstein cattle.'

Embryos and ova are imported from seven countries where Lightning Ridge Genetics owns dairy cows actively producing in milking herds — the United States, Canada, New Zealand, Italy, Germany, Netherlands and Denmark. Portugal will be added to that list after embryos exported from Australia are soon to be on the ground as calves.

"I import embryos and eggs from the dairy cows from across the globe and embryo-transfer them into recipient beef cows," Mr Patten said.

The Warragul farm is where they raise the dairy heifers that they have offered at auction every year since 2015.

This year, Lightning Ridge Genetics is behind the resurgence of the Jersey cow auction at International Dairy Week.

"Promoting a particular breed actually benefits the breed, raises additional funds because of that focus for anyone who's selling cattle; but it also brings more focus on the breed," Mr Patten said.

He will put Jersey and Holstein heifers up for auction at IDW this year.

"For us, there's always been a Holstein sale," he said.

"Jersey is a very popular breed right now and I imported some important Jersey embryos into Australia with the idea of holding a Jersey auction at IDW.

"IDW is really one of the most important events for my business and for a lot of farmers. On the business side, IDW adds value to genetics.

"If you have a successful IDW from the show side, that's obviously important for your business."

He will take to IDW direct daughters of the current grand champion and last year's grand champion from the World Dairy Expo.

In the Jersey sale will be cattle bred from the Spritz and Feliz Navidad families. For the Holstein sale, he will bring Princess cow family heifers.

"We're very excited and privileged to sell daughters of those cows in this country," Mr Patten said.

After flushing, heifers are sold in milk into dairy herds globally, including several in Australia. He currently owns two ET Holstein heifer calves in Denmark, bred from the Koba cow family and aims to import some of their embryos and eggs to Australia.

The 2017 International Dairy Week intermediate champion cow Bluechip MH Hero Marion, which was owned by Declan Patten with Brad Salmon and Californians Frank and Diane Borba.

Two heifers on Declan Patten's Warragul farm that are being prepared for International Dairy Week.

"In the current climate in the dairy industry, I think it's important genetics stay relevant," he said. "We're able to invest in new cow families and new genetics and bring those into Australia, sometimes for the first time; and that's of benefit to Australian breeders.

"Globally a lot more people are conscious about progress, environment and resource efficiency. Farmers are trying to be a lot more efficient.

"My role is to identify and purchase the right females to breed from, to produce embryos that will save farmers money, through water and land use efficiency, through feed efficiency.

"Technology, volume and commercial competition means embryos from high-value cows are now a cost-effective investment option for all farmers."

While there are comparative values globally — sire calving ease, health, fertility and production — there is also a need for variable breeding traits.

"Traits that are favoured in any one country depend on the production system you're in and the payment systems a country favours — yield or fat and protein," Mr Patten said.

"In Australia, our herds mostly graze in the paddock and stay outside all year round.

"Feed efficiency is a lot more important as a trait in European countries and the US, where cow herds are housed, either for a significant part of the year or year-round."

Breeding is a mathematical game of matching traits from cow families and sires. While Lightning Ridge Genetics owns a sire, Mr Patten's main focus has been on cow family genetics.

"We own the number one type bull in the world. And obviously that gives us revenue through semen royalties," he said.

Celebrating sale of the $250,000 heifer at International Dairy Week in 2017 are Scott Lord, Dairy Livestock Services; buyer Dan Carroll, Sexing Technologies, Texas; vendors Ellie, baby Eva and Declan Patten and Callum Moscript; Brian Leslie, DLS; Mark Patullo, World Wide Sires, and handler Charlie Lloyd.

"But it's only a small part of the business. It's an area I'd be looking to grow in the future."

Lightning Ridge-CMD Jedi Gigi-Imp-ET, known as Gigi, is an example of his focus on cow family genetics. Gigi sold as a two-month-old calf for the top Australasian price of $250,000 at IDW's World Wide Sires Evolution sale three years ago.

He owned the heifer calf in partnership with Warragul's Callum Moscript. Gigi's dam was Halogen Gold, renowned for her health and fertility traits. Its sire was Jedi, with a track record of production in its progeny.

"This is where Gigi excelled" Mr Patten said. "She was so special because she had great health and fertility traits. Health and fertility and the ability to pass on those traits to daughters are typical of the cow family, which originated in Canada.

"I was the one who raised Gold as a heifer, from the flushed embryos that made her. I decided to use a bull called Jedi because of his production traits.

"When we imported those embryos, we obviously hoped we would get a superior genetics female. But we didn't know until she was tested.

"It's very much a mathematical approach to applying genetic markers."

Gigi was exported live to America, where its has been flushed and has progeny on the ground. D

Range of informative seminars

Key points
- ✔ Seminars to be held on three days
- ✔ Feature wide range of subjects
- ✔ Quality speakers from around the world

INTERNATIONAL Dairy Week will again feature a wide range of informative seminars. All seminars will be presented at the Ballantyne Centre at Tatura Park. this year seminars will be held across the Monday to Wednesday of the event.

Monday, January 20

9am: Tracking Heat and Health in Dairy Cows
Presented by Allflex

The Allflex Animal Monitoring System is a well proven heat and health tracker for dairy cows. Scientifically proven with more than 20 years of knowledge, Allflex leads the way in helping customers put more milk in the vat. Come along to the seminar and hear how the solution could work to save labour, reduce deaths and improve the health of the herd.

10.15am: Fatty acid nutrition of dairy cows - what does the science tell us?
Presented by: Volac International — Richard Kirkland

Dr Richard Kirkland has been with United Kingdom-based nutrition company Volac for the past 15 years, working as part of the animal nutrition team. He specialises in the use of feed fats, or more correctly fatty acids, in improving performance of lactating dairy cows. He has experience in dairy production systems in highly contrasting environments, using latest research data to provide practical nutritional advice. He attained a PhD from the Queen's University of Belfast for an evaluation of energy metabolism in dairy cows and is currently global technical manager of Volac Wilmar Feed Ingredients, actively involved in fatty acid research programs.

11.30am: Probiotics — More than good bugs
Presented by: Daviesway — Hamish Hunt

This presentation focuses on the growing body of research that links positive health outcomes for commercial livestock through the use of probiotics (beneficial "good" bacteria) in conjunction with naturally occurring compounds such as the saponins and phenolics of Yucca schidigera. The research data accumulated internationally indicates that certain naturally occurring combinations of compounds are highly efficient at binding or disabling certain types of pathogen behaviour in ways equivalent to or even exceeding more conventional compounds.

Tuesday, January 21

9am: There is no magic bullet
Presented by: Maxum

How do you rear a calf? Health, Nutrition, Hygiene, Housing... this is just the start of topics we need to consider and manage every day in calf rearing systems. It is not easy and there are many different ways to achieve the desired result. Maxum has gathered a panel of calf-rearing specialists who have reared calves and plenty of them to share their experience both good and bad to help farmers consider different options and make better decisions in their calf-rearing operations.

10:15am: Lower input to get better output on all scale dairy farms
Presented by: Lely — Gert Aerts

The ultimate aim of a dairy farmer is to produce high quality milk in the tank. Lely derived the automated milking principle by reviewing value-added activities on the farm that lead to more milk in the tank. The results can improve by eliminating unnecessary activities on the farm and by optimising workflows in the chain.

With this concept, Lely focuses on less inputs and more outputs on all scales and ways of dairy farming. Overall, this leads to more profitable and enjoyable farming experience.

11.30am: In pasture we trust! But change... or bust!
Presented by: Provico — Dr Les Sandles

Pasture has underpinned the Australian industry for decades, but things have changed — it's hotter, drier and input costs are escalating. But more importantly, sustainable farming methods are being mandated by domestic and export dairy consumers. Navigating successfully through these challenges requires an open mind and a willingness to change. Dr Les Sandles will challenge some old beliefs and present some new thinking around the use of fertilisers, on-farm resources and pasture options to reduce inputs, improve soil fertility and grow more pasture. He will also discuss how this will improve health, fertility and milk quality in the herd.

Wednesday, January 22

9am: Social media for dairy farmers and breeders - doing it right!
Presented by: Holstein Australia — Adam Sewell

For most dairy farmers, updating their business social media is never a priority. In this fast paced and engaging session from Holstein Australia, farmers will hear first-hand from a number of breeders and businesses on how to use social media to market their herd, develop their brand and achieve a return on the time invested, complete with some useful takeaway tips and tricks. Whether trying to reach consumers, looking for top price at the next sale or just want to be heard, this session will provide some ideas.

10.15am: Nutritional strategies to manage heat stress in cattle
Presented by: Ridley — Dr Babak Nobari

In recent years, global warming is a major concern for the agricultural sector. In the most basic sense, heat stress occurs when a cow must change its behaviour and physiology to cope with environmental conditions. Heat stress impairs welfare and productive performance of dairy and beef cattle. Dr Nobari will focus on nutritional strategies to manage the heat stress in dairy farms.

11.30am: Getting the right number of heifers in your herd
Presented by: ST Genetics Australia — Kevin Ziemba

The secrets of increasing herd profitability through genetics and heifer inventory management will be shared by STgenetics east regional manager Kevin Ziemba. The main objective is to provide strategies to ensure the right heifer replacements to suit both the bottom and top end of the herd. Making the right heifers leads to greater profitability. Mr Ziemba has strong expertise and will present several methods and strategies to achieve this. The best way to predict the future, is to create it. A light lunch will be provided at the conclusion. D

Predicting fertility a game changer

Key points

- ✔ Model developed using herd test and other data
- ✔ Can predict likelihood of cow conceiving
- ✔ Farmers have choice about how to manage cows based on test

AGRICULTURE Victoria research scientists have developed a model that can predict how likely a dairy cow is to conceive to first insemination with up to 77 per cent accuracy.

The world-first research combines mid-infrared spectroscopy (MIR) — which shines an infrared light through cows' milk — with other on-farm data for 3000 dairy cows from 19 herds across Australia.

Cow fertility is a key driver of profitability for Australia's dairy industry but until now there has been little research towards enabling farmers to predict the outcome of insemination.

Agriculture Victoria research scientist and leader of this DairyBio initiative Professor Jennie Pryce said dairy farmers could use this research to optimise their breeding decisions, increasing farm productivity and profitability.

"The expected outcome of this research is a valuable prediction tool for farmers who choose to herd-test in early lactation, before the joining season starts," she said.

"We are now collaborating with DataGene and the herd test centres, working towards implementing the research and providing the best advice for farmers."

Agriculture Victoria research scientist Dr Phuong Ho said farmers could optimise breeding decisions using prior knowledge of how likely an individual cow was to become pregnant after insemination.

Agriculture Victoria Research scientists Dr Phuong Ho and Professor Jennie Pryce have developed a new fertility prediction model.

"Sexed or premium bull semen could be used for cows predicted to have a high likelihood of conception, whereas cows with predicted poor fertility could be mated using semen from beef bulls, multiple doses, or semen from bulls of known high genetic merit for fertility," Dr Ho said. "Additionally, farmers might adjust feeding or management strategies to help predicted poor cows improve their physiological condition and probability of conception."

> ***'The expected outcome of this research is a valuable prediction tool for farmers who choose to herd-test in early lactation.'***

The model combines information from milk MIR samples, which farmers routinely collect, with information on fertility genomic breeding values, cow genotype, milk yield, age of cow at lactation and days in milk when the sample was taken and at insemination.

The model is currently undergoing extensive validation using data from NSW dairy farms before being made available to dairy farmers.

This research is another example of how Agriculture Victoria research scientists are expanding the use of MIR technology to enable farmers to make smarter and more profitable management decisions for their herds.

This research is part of the DairyBio initiative between Agriculture Victoria, Dairy Australia and the Gardiner Foundation, in collaboration with DataGene.

The paper, Classifying the fertility of dairy cows using milk mid-infrared spectroscopy, is published in the Journal of Dairy Science, CSIRO. D

Speak up about breeding priorities

DAIRY farmers and industry people are being encouraged to have their say about the industry's national breeding objective, by filling in a survey this month.

Michelle Axford from DataGene said the National Breeding Objective described the agreed collective breeding priorities for the Australian dairy industry. It is currently expressed as the Balanced Performance Index (BPI), Health Weighted Index (HWI) and Type Weighted Index (TWI). "The NBO is formally reviewed once every five years so now is the opportunity for people to tell us about the kind of cow they want to breed," Mrs Axford said.

"Since their introduction in 2015, there has been a positive and sustained use of the BPI, HWI and TWI by farmers and bull companies.

"This has contributed to a doubling of the rate of genetic gain in the sires used to produce Australian cows."

Mrs Axford said the review was important to ensure the national breeding objective remained relevant to farmer preferences and based on robust science.

Some of the themes being explored in this review include: fat:protein ratio, longevity, fertility, feed efficiency, new traits, multiple indices and updating the base.

To complete the survey, visit <www.datagene.com.au> and follow the quick link on the home page. The survey closes January 31.

More choices to help cows handle the heat

THE arrival of summer sees dairy farmers in hot areas looking at ways to help cows handle hot, humid weather. December's release of Australian Breeding Values from DataGene is a good opportunity for farmers to think about adding breeding to their tool kit for managing heat in dairy herds.

Michelle Axford from DataGene said the Heat Tolerance ABV enabled dairy farmers to identify high genetic merit animals that were more able to tolerate hot conditions with less impact on milk production.

"Environment and management will always be important with managing hot conditions, but genetics also plays a role and farmers are rapidly having a lot more breeding choices," Mrs Axford said.

"When the Heat Tolerance ABV was released in 2017 there were very few high genetic merit bulls with more than 100 for Heat Tolerance.

"Now there are more than 275 Holstein Good Bulls that meet those criteria. And the top two proven Holstein bulls for BPI are average or above average for heat tolerance."

To breed for improved heat tolerance, look for bulls with the combination of a high Balanced Performance Index (BPI) and a Heat Tolerance ABV of greater than 100. If using the Good Bulls App, set a filter to screen out bulls with a Heat Tolerance ABV below 100.

"Heat tolerance is favourably linked with fertility and unfavourably linked with production, so it's important to look for the exceptional bulls that are strong for both Balanced Performance Index or production as well as heat tolerance. And always use a team of bulls to spread risk," Mrs Axford said.

For more information contact DataGene, phone (03) 9032 7191, email <enquiries@datagene.com.au> or website <www.datagene.com.au>.<ct:>

Environment and management will always be important in managing hot conditions, but genetics also plays a role.

Semex bulls high on genomic ranks

SEMEX'S BPI Genomax sires performed well in the December Australian Breeding Values Balanced Performance Index — Genomic rankings, combining high components, impressive health and fertility traits along with solid overall type and mammary systems.

"These bulls are hand-selected with the Australian producer in mind," Semex's product and operations manager Tyson Shea said.

"Semex has five of the top 15 BPI genomic sires listed in the December Good Bulls Guide. The Genomax lineup globally has never been stronger with chart toppers in all major markets. We're excited to offer these sires to Australian breeders and believe in their profit potential."

Leading the pack is 0200HO11665 Westcoast Almamater, an Immunity+, A2A2, RobotReady sire that puts together an intriguing package.

It had a BPI of 406 for an overall ranking at number two on BPI — Genomic list.

0200HO11385 Westcoast River is a health and fertility specialist, combining a solid cow family with a genomic profile that will lead to highly profitable cows. It is an Immunity+, A2A2 sire, available as a Semexx sexed semen sire. It has 393 BPI, with high survival and daughter fertility values.

Maternal brother to Almamater and River, 0200HO11384 Westcoast Redcarpet, shows the power of its maternal line. It has a 376 BPI, with high components and overall type. It is a GrazingPro, A2A2 and Semexx sexed semen sire.

Westcoast Almamater is the number two ranked genomic bull in the December release.

Popular 0200HO10777 Westcoast Perseus has been the highest selling bull in conventional and Semexx sexed semen for Semex so far this year in Australia. Perseus continues to boast impressive BPI figures of 382, with good production, mammary, daughter fertility and calving ease values. Breeders will be satisfied with the health, fertility, production and conformation profile of his progeny.

GrazingPro, A2A2, Fertility First and Semexx sexed semen sire, 0200HO11251 Progenesis Wimbledon puts together a complete profile. Its outcross pedigree of Robson x Denver traces back to a strong genomic cow family from United States. Wimbledon is the number one fat kilograms genomic breeding value. D

Article supplied by Semex, website <www.semex.com/au>.

ABS claims number one position

ABS has dominated the December Australian Breeding Values Holstein daughter proven release claiming seven of the top 10 sires.

ABS sire 29HO18101 Larcrest Calumet is in the top position with a Balanced Performance Index of 367. Sired by popular ABS bull View-Home Monterey, Calumet is also the number one sire on the Health Weighted Index, a reflection of its positive daughter fertility at 109. It is also the number one sire on the Type Weighted Index.

Calumet has performed well for mastitis resistance and feed-saved, all this on top of positive fat and protein percentages.

It has an added advantage of siring offspring with outstanding udders, scoring 111.

Calumet was one of five ABS graduates at the top of the Holstein ABV daughter-proven list.

ABS Australia's operations manager Bruce Ronalds said the December ABV proof results would allow farmers to plan early with sires that had strong figures supporting their production, health traits and type.

"ABS Australia has never had a proof run as successful as this for our proven product," Mr Ronalds said.

"It is a testament to the strategy we adopted six years ago when we focused on genomically testing everything coming in from overseas.

"Our commitment was to make proven sires in Australia, and we are seeing that now."

ABS Australia South Gippsland key account manager Brian Enbom has assessed more than 60 Calumet daughters on eight different farms. "I have been impressed with the temperament of all the Calumet daughters," he said.

"They are very even groups of heifers that have fantastic udders and great dairy frames.

"They all have the makings of cows, which will last for a long time and be profitable for their owners."

In recent years, ABS has led the market with its ABV genomic Holstein proofs.

The top sires in this proven ABV list were all high BPI genomic bulls.

"This shows the technology works and it is delivering value to Australian dairy farmers," Mr Ronalds said. D

Article supplied by ABS, website <www.absglobal.com/au/>.<ct:>

THE Good Bulls GUIDE

For more information contact
Phone: (03) 9032 7189 Email: <enquiries@datagene.com.au > Website: <www.datagene.com.au>

DataGene Solutions for Herd Development

Dairy Australia Your Levy at Work

Source of Bulls

ABS	ABS Australia
AGR	Agri-Gene
ALT	Alta Genetics
AXB	Auzred XB
CRV	CRV Australia
ECL	Eclipse Genetics
GAC	Genetics Australia
GGI	GGI Australia
IRG	Ireland Genetics
LIC	Livestock Improvement
SEM	Semex Australia
SHG	Shamrock Genetics
SXT	ST Genetics Australia
TLG	Total Livestock Genetics
VDG	Van Diemen Genetics
VIK	Viking Genetics
WWS	World Wide Sires
TBA	To BE Advised

Good Bulls Guide for Holstein — Balanced Performance Index (BPI) — Australian Proven

				Indices				Production Traits				Survival		Conformation Traits			Workability				Daughter Fertility		Cell Count		Feed Saved	
Rank	Bull ID	Bull Name	Source	BPI $	BPI Rel	HWI	TWI	ASI	ASI Rel	No. Dtrs	No. Herds	Sur-vival	Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Dtr Fert	Rel	CC	Rel	Feed Saved	Rel
1	29HO18101	LARCREST CALUMET-ET	ABS	367	78	328	377	162	84	66	16	112	73	107	111	87	104	102	106	87	109	62	158	79	73	43
2	CBCONTENDER	MR SUPER CONTENDER	SXT	360	72	305	354	155	79	68	18	113	63	105	108	66	98	104	105	77	110	63	199	65	-50	35
3	ROWLING	BRONTE PARK CASHCOIN ROWDY-ET	GAC	352	69	275	343	228	75	51	16	109	63	101	104	70	103	104	104	72	105	63	141	65	3	36
4	29HO17747	COOCKIECUTTER HARPER	ABS	340	82	248	294	254	88	72	18	106	73	100	102	85	102	102	104	85	105	79	143	87	-19	42
5	7HO11752	ROYLANE BOOKEM BOB 5170-ET	WWS	339	80	248	343	223	87	90	15	108	75	106	107	73	101	104	106	78	108	84	132	89	-124	37
6	29HO17706	DE SU 12128 TAILOR	ABS	336	81	319	348	87	89	76	18	112	72	105	108	83	105	102	104	77	111	77	185	84	44	41
7	MAEBULL	CALISTER MAEBULL	GAC	335	85	298	330	127	96	134	41	110	75	103	100	82	101	99	103	83	112	79	191	87	39	41
8	ENFORCER	RED FIELD DOORMAN FROUKJE	GAC	326	76	254	329	205	87	69	20	106	64	101	109	71	101	103	106	73	102	65	180	70	-53	36
9	DESTINATION	KAARMONA DESTINED-ET	GAC	323	73	279	331	121	83	62	18	109	62	106	104	67	102	102	104	74	110	63	185	69	-25	35
10	JELLY	RENGAW CAPGAIN JELLY-ET	GAC	318	73	232	296	232	83	87	35	109	62	101	104	66	97	104	105	74	106	64	151	66	-67	34
11	29HO17919	DE-SU 12659 TACTIC	ABS	314	76	261	337	158	86	78	17	110	66	105	109	75	103	103	104	77	103	64	182	68	-18	39
12	GOLDWARRIOR	BUNDALONG LIQUIDGOLD WARRIOR	GAC	313	74	218	266	205	85	53	17	107	63	100	98	68	100	101	103	72	108	63	168	71	-138	35
13	14HO07303	LE-O-LA MOGUL GAMBLER	WWS	313	86	279	377	145	99	798	29	113	71	109	115	76	102	103	105	83	104	86	160	95	16	37
14	KINGTUT	RENGAW REDMAW KB 9975-ET	GAC	309	73	236	269	187	83	87	19	110	63	101	103	69	98	98	102	72	106	63	193	66	-98	35
15	0200HO02870	MR LOOKOUT P ENFORCER	SEM	302	84	220	232	192	92	92	18	109	76	101	99	79	101	100	101	86	111	87	136	90	-125	40
16	29HO17607	BRYCEHOLME SS BOASTFUL	ABS	301	89	258	260	144	98	449	68	110	80	98	99	91	100	102	103	93	111	88	165	94	51	45
17	CRVGFORCE	DELTA G-FORCE	CRV	300	87	223	217	195	96	157	26	104	82	95	100	81	98	100	100	89	110	90	162	95	-60	40
18	JSPOWERBALL	VIEW-HOME POWERBALL P ET	GAC	299	85	261	262	167	94	127	29	109	78	99	102	89	102	101	104	80	109	85	126	89	115	44
19	011HO11493	GLEN-D-HAVEN ALTAHOTROD	ALT	298	82	201	332	201	91	97	20	111	72	111	110	76	102	101	101	85	104	85	129	88	-251	39
20	CBSUPERSHOT	COGENT SUPERSHOT	SXT	298	89	266	294	112	98	291	55	110	81	105	103	90	97	105	106	90	110	89	190	93	10	44
21	29HO16888	SEAGULL-BAY MVP-ET	ABS	294	92	212	316	200	99	1,630	199	111	89	109	110	96	103	105	107	97	102	94	126	98	-128	46
22	0200HO10569	IHG GEOGRAPHY-ET	SEM	287	76	242	295	122	86	121	18	112	65	105	105	71	104	102	106	73	105	62	174	76	-55	37
23	14HO07328	COASTAL-VIEW MOOKIE	WWS	284	89	208	317	200	98	478	56	110	82	105	106	88	101	101	104	83	104	90	128	95	-69	43
24	29HO16667	DE-SU 11228 TOPSY-ET	ABS	283	89	195	284	240	97	253	38	106	84	102	102	88	101	99	101	91	99	91	147	94	-62	43
25	14HO07358	PRIDE MOGUL TALLYHO 165-ET	WWS	282	80	273	296	56	91	109	15	109	69	104	108	71	103	103	105	71	114	75	170	84	24	34

Good Bulls Guide for Holstein — Balanced Performance Index (BPI) — Genomic ABV(g)s

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1	011HO15023	PEAK FSCNTR ALTAGLOW-ET	ALT	415	64	330	382	221	77	0	0	112	48	103	104	55	101	101	105	60	115	48	166	66	-86	30
2	0200HO11665	WESTCOAST ALMAMATER	SEM	406	65	354	374	186	77	0	0	114	51	100	105	56	102	104	107	61	114	51	168	67	69	31
3	29HO17458	BOGHILL GLAMOUR PERSUADE	ABS	405	65	354	345	181	77	0	0	111	50	98	103	56	102	103	105	62	115	50	180	67	62	31
4	29HO18698	ABS JERONIMO-P-ET	ABS	399	66	348	369	186	77	0	0	112	51	102	104	59	102	102	104	62	114	52	166	69	74	32
5	29HO19002	PINE-TREE HURON-ET	ABS	398	65	323	367	212	77	0	0	112	50	103	107	56	102	103	105	61	112	50	163	67	-40	31

THE Good Bulls GUIDE

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Dairy Australia Your Levy at Work

Source of Bulls

ABS	ABS Australia
AGR	Agri-Gene
ALT	Alta Genetics
AXB	Auzred XB
CRV	CRV Australia
ECL	Eclipse Genetics
GAC	Genetics Australia
GGI	GGI Australia
IRG	Ireland Genetics
LIC	Livestock Improvement
SEM	Semex Australia
SHG	Shamrock Genetics
SXT	ST Genetics Australia
TLG	Total Livestock Genetics
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6	07HO13696	SSI SCENARIO LORD	GAC	397	67	337	348	191	77	0	0	112	54	97	106	60	103	102	105	63	115	56	164	69	14	32
7	14HO14894	S-S-I NIGEL BIG DEAL-ET	GAC	393	65	347	352	169	77	0	0	112	49	100	103	55	103	104	106	60	114	49	173	67	66	30
8	0200HO11385	WESTCOAST RIVER	SEM	393	65	358	382	133	77	0	0	113	50	103	103	56	102	103	105	61	117	50	187	67	55	30
9	STGTACOMA	ST GEN NOBLE TACOMA	SXT	391	66	339	370	140	77	0	0	114	53	102	109	58	103	102	105	63	117	53	185	67	-75	31
10	0200HO11284	PROGENESIS POWERHOUSE	SEM	390	67	336	393	185	78	0	0	112	52	104	109	59	103	103	106	63	109	53	175	69	21	32
11	29HO18527	SANDY-VALLEY RORDAN-ET	ABS	382	67	319	360	193	77	0	0	111	55	103	103	61	102	103	105	66	111	57	170	69	27	32
12	0200HO10777	WESTCOAST PERSEUS	SEM	382	68	317	337	187	78	0	0	110	58	101	105	64	101	102	105	68	114	60	172	70	-22	33
13	NARUTO	NARUTO	AGR	382	67	346	379	138	78	0	0	111	54	105	105	61	101	102	106	65	115	54	183	69	53	32
14	0200HO11251	PROGENESIS WIMBLEDON	SEM	381	64	302	378	216	77	0	0	110	46	102	105	52	102	104	105	58	109	46	162	68	-42	29
15	ENDGAME	WINAVIEW SUPERHERO AVENGER	GAC	381	68	320	372	158	78	0	0	113	57	106	106	63	103	104	106	66	114	57	171	69	-70	33
16	0200HO10779	PROGENESIS COSMIC	SEM	378	69	325	333	187	79	0	0	114	58	99	101	65	102	102	105	69	114	60	160	70	68	33
17	0200HO11384	WESTCOAST REDCARPET	SEM	376	65	329	398	176	77	0	0	116	50	107	109	56	104	103	107	61	107	50	161	68	44	31
18	PEMBERTON	CARENDA PEMBERTON	GAC	375	66	308	362	192	77	0	0	110	53	105	106	59	101	103	105	64	109	53	174	68	-31	31
19	ITLETSGO	VOGUE LETSGO TV TL TY CF	GAC	375	68	321	378	165	78	0	0	115	55	106	109	62	103	102	106	67	113	54	158	70	-29	33
20	29HO18863	DENOVO 14520 AMSTEL-ET	ABS	374	67	318	357	180	78	0	0	110	53	100	107	59	102	104	105	63	111	54	162	69	11	32
21	PILBARA	CARENDA PILBARA	GAC	372	65	312	340	193	77	0	0	110	50	103	107	56	103	103	105	62	111	50	155	67	12	31
22	011HO12246	PEAK ALTATBAY-ET	ALT	372	67	310	354	187	78	0	0	112	54	102	104	60	103	103	105	65	109	55	171	69	-4	32
23	TLGLARK	VALA BANDARES LARK-ET	TLG	371	67	314	375	175	78	0	0	111	52	104	109	58	103	103	104	63	111	54	155	69	-10	31
24	29HO19227	DENOVO 15504 SOLSTICE-P-ET	ABS	371	64	344	353	118	77	0	0	114	47	103	108	53	102	101	105	58	117	47	174	67	50	29
25	CRVSHERO	PEAK SHERO	CRV	369	67	314	334	162	78	0	0	111	53	101	102	61	101	104	105	64	112	55	185	70	3	33

Good Bulls Guide for Red Breeds — Balanced Performance Index (BPI) — Australian Proven

			Source	Indices				Production				Survival		Conformation Traits			Workability				Daughter Fertility		Cell Count		Feed Saved	
Rank	Bull ID	Bull Name		BPI $	BPI Rel	HWI	TWI	ASI	ASI Rel	No. Dtrs	No. Herds	Sur-vival	Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Dtr Fert	Rel	CC	Rel	Feed Saved	Rel
1	VIKRTOKYO	VR MALBACK TUOMI TOKYO	VIK	291	79	187	291	236	91	61	12	108		62	106	104	67	100	100	106	76	99	143	88	-182	34
2	SKJELVAN1039	SKJELVAN 11039	ABS	253	65	173	248	205	62	66	9	105		58	102	96	69	101	103	101	76	103	118	88	-62	36
3	ARBCYGNET	BEAULANDS SWANNIES - ET	GAC	222	79	187	205	130	93	82	33	105		63	101	106	69	104	102	105	82	103	117	80	18	33
4	ARBOSCAR	ORANA OSCAR	GAC	221	57	151	225	177	64	16	9	103		47	103	103	49	101	101	102	55	101	125	55	-69	23
5	VFOSKE	V FOSKE	VIK	215	92	144	205	172	100	2,509	171	106		95	103	103	95	102	102	105	98	101	116	99	-97	44
6	AXBJAMAR	BLACKWOOD PARK JAMAR	AXB	201	72	153	206	127	84	52	8	103		56	102	97	66	102	100	102	73	101	161	69	-22	32
7	0200AR08166	BEAULANDS EDEN	SEM	189	74	151	159	136	90	54	14	101		56	97	94	44	100	102	101	74	101	145	74	69	21
8	AXBBLACKWOOD	BLACKWOOD PARK BLACKWOOD	AXB	183	78	159	170	144	92	89	11	104		61	99	107	72	103	102	104	67	99	101	79	117	34
9	ARBABBOTT	BEAULANDS ABBOTT	GAC	174	80	110	143	223	93	87	27	101		65	96	97	70	101	101	104	82	98	70	82	102	34
10	VIKRCAPRI	VR POIKOLAN CIGAR CAPRI	VIK	165	61	141	176	94	58	44	9	104		58	100	110	66	101	100	101	75	103	121	81	4	34
11	ARBSCAREBEAR	JOHVILLE PARK SCAREBEAR	GAC	160	82	130	78	114	95	115	37	102		69	91	96	78	105	102	105	85	103	117	83	75	37

THE Good Bulls GUIDE

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ALT	Alta Genetics
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ECL	Eclipse Genetics
GAC	Genetics Australia
GGI	GGI Australia
IRG	Ireland Genetics
LIC	Livestock Improvement
SEM	Semex Australia
SHG	Shamrock Genetics
SXT	ST Genetics Australia
TLG	Total Livestock Genetics
VDG	Van Diemen Genetics
VIK	Viking Genetics
WWS	World Wide Sires
TBA	To BE Advised

Good Bulls Guide for Jersey — Balanced Performance Index (BPI) — Australian Proven

				Indices				Production				Survival		Conformation Traits			Workability				Daughter Fertility		Cell Count		Feed Saved	
Rank	Bull ID	Bull Name	Source	BPI $	BPI Rel	HWI	TWI	ASI	ASI Rel	No. Dtrs	No. Herds	Sur-vival	Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Dtr Fert	Rel	CC	Rel	Feed Saved	Rel
1	7JE01344	WILSONVIEW IF MATT	WWS	253	85	216	290	117	96	156	29	108	77	107	107	86	104	104	103	72	101	85	154	90	-11	40
2	VICKS	STONYRUN AUSTBONE VICKS 2	GAC	207	70	156	240	138	79	57	20	109	61	105	106	67	102	105	105	69	98	59	126	68	-27	32
3	0200JE00241	AHLEM GENOMINATOR	SEM	188	82	161	254	72	92	60	17	107	73	110	108	83	101	104	104	66	100	82	158	87	-40	40
4	CRVLINE	PANNOO VLINE	CRV	181	80	108	158	149	92	71	20	106	71	103	99	72	104	102	103	79	103	75	98	81	-124	34
5	7J1038	ALLLYNNS LOUIE VALENTINO	GAC	174	93	146	257	66	100	2,199	205	113	95	114	115	98	103	107	108	98	96	97	135	99	-113	45
6	7JE05004	RIVER VALLEY CECE CHROME	WWS	173	79	173	230	34	89	46	15	108	70	109	110	75	101	100	102	73	101	83	170	87	18	36
7	CRVMARVARIE	WALLACEDALE MARVARIE ET	CRV	172	84	129	197	130	95	104	35	104	74	108	107	77	101	104	101	86	97	78	109	86	-16	37
8	BAYMAX	BEULAH BRAX 4289	GAC	156	72	97	158	129	85	50	20	106	55	104	107	59	101	105	105	72	101	56	104	66	-140	28
9	7J1219	DUTCH HOLLOW OLIVER P	GAC	155	81	138	228	49	93	115	22	110	69	113	112	73	101	107	108	68	99	80	121	88	-64	35
10	7JE01404	HEARTLAND PHAROAH APOLLO	WWS	154	74	129	195	60	85	77	20	106	59	106	106	66	101	100	101	64	103	65	135	80	-40	33
11	VANBAYLEE	KAARMONA VAN BAYLEE	GAC	150	78	93	180	155	91	68	22	104	67	107	103	75	99	105	105	80	94	67	105	73	-24	35
12	STACKER	BROADLIN STACKER	GAC	150	80	116	131	118	92	84	32	101	66	102	96	76	100	101	101	81	101	68	126	78	78	36
13	CRVVOYANT	MERSEYBANK CLAIRVOYANT	CRV	148	83	122	170	59	95	116	36	108	71	102	103	77	100	104	103	81	102	74	135	85	-53	37
14	VOYAGEDALE	WALLACEDALE MELS VOYAGE	GAC	145	83	108	119	135	95	119	44	102	71	101	101	74	101	101	101	85	97	76	121	84	51	35
15	CSCBANDANNA	ARALUEN PARK BANDANNA	ABS	145	81	124	139	92	93	128	36	108	71	102	104	85	104	106	107	80	101	63	88	77	58	40
16	MINX	STONYRUN AUSTBONE MINX	AGR	141	70	94	157	129	78	59	15	106	63	103	101	68	105	105	106	76	94	60	107	65	-15	32

Good Bulls Guide for Jersey — Balanced Performance Index (BPI) — Genomic ABV(g)s

				Indices				Production				Survival		Conformation Traits			Workability				Daughter Fertility		Cell Count		Feed Saved	
Rank	Bull ID	Bull Name	Source	BPI $	BPI Rel	HWI	TWI	ASI	ASI Rel	No. Dtrs	No. Herds	Sur-vival	Rel	Over Type	Mam Syst	Type Rel	Milk Spd	Temp	Like	Rel	Dtr Fert	Rel	CC	Rel	Feed Saved	Rel
1	0200JE08182	BROOKBORA ALDRIN	SEM	282	68	205	300	201	78	19	7	109	56	105	110	61	105	106	106	69	100	57	108	69	-77	29
2	DOUGGAN	WHITE STAR DOUGLAS	GAC	277	64	197	252	212	74	0	0	109	52	98	101	55	102	102	105	61	101	54	140	67	-44	26
3	PUBLICAN	WHITE STAR PATRICK	AGR	276	65	198	288	212	77	0	0	109	49	106	106	54	104	104	106	63	100	49	100	70	-31	26
4	BAZYLI	KAARMONA BAZYLI	GAC	258	67	203	282	162	77	0	0	110	54	107	105	59	104	105	107	63	102	56	111	70	0	28
5	CSCDYNAMITE	GELBEADO PARK DYNAMITE	ABS	254	62	194	256	170	73	0	0	108	47	103	103	49	102	101	101	58	101	50	138	66	4	24
6	DOBSON	WHITE STAR DOORMAN	GAC	246	64	179	253	191	74	0	0	110	51	104	104	55	102	103	105	60	100	53	111	67	-16	26
7	CSCJAMIEO	MURRAY BROOK JAMIEO	ABS	243	63	198	286	134	75	0	0	109	46	110	112	52	101	105	106	55	100	48	129	66	-29	25
8	VALENBLAST	WHITE STAR VALENBLAST	GAC	235	67	186	259	142	77	0	0	108	58	106	111	60	103	105	106	65	99	59	130	71	-44	28
9	ARDENT	BERCAR 9216	GAC	229	66	165	249	168	76	0	0	110	54	106	106	58	102	105	106	62	98	56	118	69	-66	28
10	TLGBASHFUL	KINGS VILLE BASHFUL P	TLG	214	64	173	263	113	75	0	0	108	50	109	110	56	102	107	107	58	98	51	129	68	-64	27
11	CSCTOYOTA	AUBURN VALE TOYOTA	ABS	212	63	166	191	147	74	0	0	103	49	101	102	51	101	101	103	58	106	49	97	67	33	24
12	MRFERTILITY	BEULAH MR FERTILITY	GAC	212	64	173	187	119	75	0	0	108	47	101	100	49	100	101	102	62	108	49	118	68	22	25
13	CSCVIRAT	LANGDALE VIRAT	ABS	210	66	151	199	170	76	0	0	109	54	100	104	59	103	102	105	62	98	56	115	70	-11	28
14	INVINCIBLE	LOXLEIGH HATMAN VINCE 5963	GAC	205	67	149	254	131	77	0	0	108	55	110	113	59	104	105	107	65	97	56	112	71	-119	28
15	LOKI	KAARMONA LOKI	GAC	202	62	161	198	144	73	0	0	106	46	102	103	48	102	102	104	57	102	51	101	67	62	24
16	MADILL	KINGS VILLE MADILL P		194	60	153	206	117	70	0	0	105	43	105	104	50	104	102	104	53	101	45	115	62	4	25
17	HIPWOOD	BEULAH HIPWOOD P	GAC	190	64	148	213	112	75	0	0	109	48	107	109	54	103	105	107	57	101	50	104	68	-66	26
18	CSCSUNSET	WALLACEDALE SUNSET	ABS	189	63	145	227	130	74	0	0	110	50	106	108	55	103	104	105	57	95	52	125	66	-29	26
19	0200JE01048	FDL BARCELONA	SEM	188	65	124	227	146	77	13	3	109	51	106#	106#	55	101#	103#	104#	61	96	51	127	68	-109	27
20	COLEMAN	BROOKBORA COLEMAN	GAC	187	66	117	209	175	76	24	10	106	54	106	104	60	99	102	103	65	94	55	135	68	-68	29

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3000 cows qualify as 5-star Jerseys

Key points

- ✔ Program identifies highest quality Jersey animals
- ✔ Promotes Jersey breed as suited to Australian conditions
- ✔ Promotes quality of Jersey milk

NEARLY 3000 cows have qualified as 5-Star Jerseys in the initial induction of Jersey Australia's new prestige ranking system.

Members have been notified of their success and can now promote and sell these cows as 5-Star Jerseys. They can also use the status to promote and sell progeny of these cows.

The 5-Star promotion is part of Jersey Australia's Dairy's Finest campaign that highlights the success of Jersey cows and their milk in Australian conditions.

Jersey Australia chief executive officer Glen Barrett said those cows chosen as 5-Star were the best of the best. "There's been a positive response from farmers about what we're trying to achieve with 5-Star Jerseys," Mr Barrett said.

"This was the first time we run it and farmers were happy to receive the recognition. There were many older cows genomically tested back in the day who received the status and we had a number of retired farmers who were very proud of the fact their cows had qualified as 5-Star cows. We received a lot of nice emails about it."

Mr Barrett said the system promoted Jerseys as the best cows in Australia. "It's using the best available data and information," he said.

Jersey Australia plans to update the 5-Star list three times a year in line with Australian Breeding Value runs.

The 5-star Jersey honour recognises cows with the most comprehensive and complete data available.

To achieve 5-Star Jersey status, a cow must be registered with Jersey Australia, sired by a registered AI sire, classified by Jersey Australia, herd tested and genomic tested. The 5-Star cows can also be promoted for five features; their fertility, feed efficiency, heat tolerance, size and as the most profitable cow for Australian farming conditions.

Members can download performance certificates for their cows from <http://jersey.com.au/jersey-online/>.

The Dairy's Finest campaign promoting both the Jersey breed and milk is also making its mark.

"From talking to farmers, they have been noticing steady growth and interest in Jerseys across many regions," Mr Barrett said. "Farmers are seeing the benefits of Jerseys.

"We see Jersey milk as dairy's finest milk and the Jersey cow as dairy's finest cow and we believe that this premium quality should be well known across Australia."

There are now about 10 processors in Australia providing Jersey-branded product, sold for a premium price and delivering premium returns to farmers.

"There are opportunities to support the growth of Jersey milk in the market place and we want to grow the breed and increase demand for the product," Mr Barrett said.

Jerseys represent about 15 per cent of the Australian dairy industry but Jersey Australia wants to achieve 25 per cent market share by 2030. D

For more information on 5-Star Jersey contact the Jersey Australia office, phone (03) 9370 9105 or email <jersey@jersey.com.au>.

Taking it to another level

WHEN Rob and Kristen Berger wanted to take their ice-cream to another level, they looked straight at Jersey milk.

Their Frost Bite Stone Cold Ice-cream business started in 2013 alongside their Mexican restaurant in Warrnambool in south-west Victoria.

At the time they were selling pre-processed ice-cream, which was nice but Mr Berger thought they could do better.

In 2017 the Bergers built a stand-alone shop and decided to make their own ice-cream using Jersey milk as the base.

"You'll find 99 per cent of manufacturers use pre-processed or powdered milk to make their ice-cream but we wanted to be different. I thought what we were selling previously was quite good until we started making this; there's no comparison. The higher fat content adds to the creaminess and the texture of the product, which takes us to the next level."

"People are blown away by it," Mr Berger said. "Local people expect it but the out-of-towners come in and they can't believe it and they come back day after day."

Rob Berger with some of his ice cream made from Jersey milk.

Mr Berger admits it was a long and tedious process getting approvals from Dairy Safe Victoria.

"Once you start using raw milk direct from the farm, which we do, regulations go to a whole new level," he said.

"There are always safety programs but it's 10 times more involved when you're using milk straight from the farm. It's all about traceability, and regulations and monitoring during construction are very high, even for a small business. They look at us the same as Warrnambool Cheese and Butter; we have the same constraints as they do."

The ice-creamery has 46 flavours, with 90 per cent of products sourced from Jersey milk, supplemented by some sorbet and vegan varieties.

The key is making a good base and that's where the Jersey milk excels. "The base is the Jersey milk. If that's spot on, which it is, everything else follows from there and you work on it to get the right consistency and texture," Mr Berger said.

The milk is sourced from a Jersey farmer in nearby Nullawarre, Vic. "We do a regular run and collect 200 litres each time," Mr Berger said.

"We can only produce a certain amount of the base at a time so it's a continual process. You have to age the base for a minimum of 24 hours but no more than three days, which is its premium time."

The base is created in a pasteuriser that heats the milk from about 3-4 degrees to 87-88 degrees within a short period of time.

Safe-to-drink raw milk finds ready market

MADE By Cow appeals to people's nostalgic instincts as much as their taste-buds, but there's nothing old-fashioned about the products.

Made By Cow is 100 per cent Jersey and is forging an increasingly strong presence in the Australian market.

Promoted as the world's first safe-to-drink raw milk that comes direct from the farm, to bottle, to consumer, Made By Cow is set to grow with a raft of new products in the pipeline.

This is great news for suppliers, Jersey farmers Hayley and Stewart Menzies from Nowra, NSW, and potentially other Jersey farmers in the future.

Made By Cow marketing manager Joanna Warr said the positive response from customers was driving growth.

"Customers often write to us saying that tasting our milk takes them back to their childhood — to the days when they could get milk fresh from the farm," Ms Warr said.

"Milk is such a nostalgic product; it has the ability to take you back to those childhood moments and we feel the flavour is really enhanced because of the Jersey milk. It provides a natural profile with an abundance of nutrients and it works well with our cold press process.

"It's really rich and we feel that you can taste the difference compared to other milks on the market. It tastes similar to what you'd get off the farm; very different to heat-pasteurised milk."

Ms Warr said it was what hadn't been done to Made by Cow milk that made it unique. The milk isn't heat pasteurised, homogenised, separated, blended, diluted or standardised.

"We take our milk from the farm and put it straight into the bottle, then seal the lid and process the milk inside the bottle using high-pressure processing technology at Homebush in Sydney. The pressure removes harmful bacteria from the milk, yet it doesn't affect the profile of the milk and the flavour and nutrients remain intact.

"It's the Jersey milk that makes it really creamy, rich and full bodied."

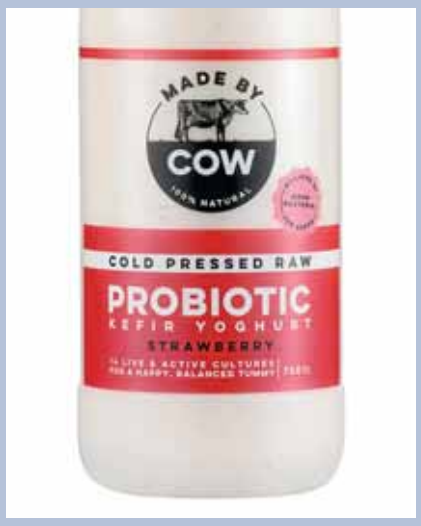
The milk is sold in two sizes and Made By Cow also offers a range of kefir-cultured milk products in natural, strawberry, coconut and manuka honey and vanilla bean flavours.

The kefir products use Jersey milk as a base, which is then fermented for eight hours with live cultures. They then add real fruit and honey, creating a range between yoghurt and milk enriched with probiotics that are good for the stomach.

Made By Cow has big plans in the pipeline.

"We have eyes on becoming a fully functional dairy brand and we're looking at lots of other dairy products," Ms Warr said.

The Made By Cow milk is not heat pasteurised.



Made by Cow also sells a range of probiotic kefir drinks.

The plans and positive outlook are good news for the Menzies family who milk 600 Jerseys at Nowra.

Stewart and Hayley have been on the farm for 17 years and three years ago purchased the Brunchilli Jerseys herd from Hayley's parents, removing most of the Holsteins from their herd.

"We had a market for Jersey milk in Sydney with two different suppliers, Made By Cow and Harris Farm Markets' private label and we saw that as a potential to grow the business," Hayley said.

They supply both Made By Cow and Harris Farm Markets, while the bulk of their milk goes to Parmalat.

Hayley said moving to a predominantly Jersey herd made good business sense.

"Jerseys give us better quality milk and with all of the good management traits that Jerseys have, it wasn't a difficult decision," she said.

They were initially approached by Harris Farm after their previous supplier discontinued. "They were looking for a Jersey herd and a friend recommended us," Hayley said.

Once a second vat was installed to separate the Jersey and Holstein milk, they started supplying Harris Farm and after about six months of testing they added Made By Cow to their list of clients.

"Because Made By Cow is bottled as a raw product, we had to meet stringent testing and quality guidelines so we installed a teat scrubber and routinely presanitise the plant and vats before collection. We've always been able to achieve those goals," Hayley said.

Hayley and Stewart love hearing positive comments about their milk. "Made By Cow has had a huge response from the public," Hayley said. "Because the milk isn't pasteurised or homogenised, it settles like milk you'd collect on farm and take home in a jug. A lot of people say it reminds them of their grandparents' farm; how milk used to taste."

Made By Cow is in every state and constantly introducing products into new markets. "Being the supplier to these brands is a great source of pride for us," Hayley said.

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Silage Mycotoxins – The Hidden Risk

Dr Tim Jenkins, BIOMIN

Mycotoxins are often thought to be a grain issue but silage too is at risk. In fact with silage we need to take care of the mycotoxins that have formed in the crop in the field as well as the ones produced by moulds that can invade the silage.

Mycotoxins are produced by a wide range of fungi. Some of these fungi are plant diseases such as the Fusarium maize ear rots and cereal head blight fungi that are responsible for some of the main grain mycotoxins like deoxynivalenol (DON), zearalenone (ZEN) and fumonisins (FUM). Those same fungi are able infect more than just the grains, commonly producing mycotoxins in the stems and leaves of maize, small cereals and grasses. Other fungi within the plants such as wild endophytes in the shoots of some grass species, ergots in the seeds and Alternaria fungi on the forage also contribute to the field mycotoxin load. The mycotoxins produced in the field continue to pose a risk when a forage is made into silage. An additional risk comes from mould fungi that can grow on silage, producing some of the well-known mycotoxins like aflatoxin as well as a wide variety of other toxins. Good silage management such as correct dry matter content, fast packing, adequate compacting and timely airtight sealing is crucial to reducing the silage mould risk. A good silage inoculant, tidy silage face management and avoiding obviously mouldy parts of silage is also important to help avoid the risk. Despite good silage management, the risk of mycotoxins from the field, the ensiling and the feeding out can easily pass unnoticed. For countering diverse mycotoxins in the animal, a comprehensive approach is required. Mycofix® addresses this with three complimentary strategies of adsorption (effective on aflatoxins, ergot alkaloids, and some of the frequent silage mould mycotoxins), biotransformation (necessary for some of the most common mycotoxins that are not easily bound), and bioprotection to safeguard the vulnerable cells of the gut wall, liver and immune system.

Testimonial

A dairy farm in Eastern Australia consisting of 350 cows recently used Mycofix® Plus to address the issue of mycotoxins in corn snaplage. The cows graze kikuyu through summer and rye grass through winter. In addition, cows were fed each day of soybean silage and cereal hay as well as corn silage and corn snaplage with an addition of canola meal in the dairy. Dry matter intake for the cows was approximately 16.5 kg per day.

By June there had been a performance drop across the herd. Non-pregnancy rates rose from 10% to 19% and peak milk yield was poor. Assessment of the corn used for the snaplage indicated visible white fusarium mould on many of the cobs and further analysis confirmed the presence of mycotoxins at dangerous levels. Due to a very dry winter it was necessary for the silage to be fed shortly after cutting and so a premix containing Mycofix® Plus was mixed with the silage on the feed pad and introduced a week prior to mating and around the peak yield of the autumn calving herd. The cows were fed approximately 16 g of Mycofix® Plus per day based on an average weight of 480 kg. Following the incorporation of Mycofix® Plus into the herd's diet, several improvements were noted. The non-pregnancy rate fell significantly from 19% to 12%. Milk yield also improved after the second week and continued to increase steadily. After eight weeks, the average yield had increased by 3.5 L per cow per day. Somatic cell counts (SCC) reduced and remained at an A grade premium after the introduction of Mycofix® Plus.

Biomin Acknowledge that this research was carried out by Dr Bruce Hamilton from Ruminant Nutrition Australia. For further enquiries on the report please contact **Dr Bruce Hamilton, Ruminant Nutrition Australia 0428 875 055**

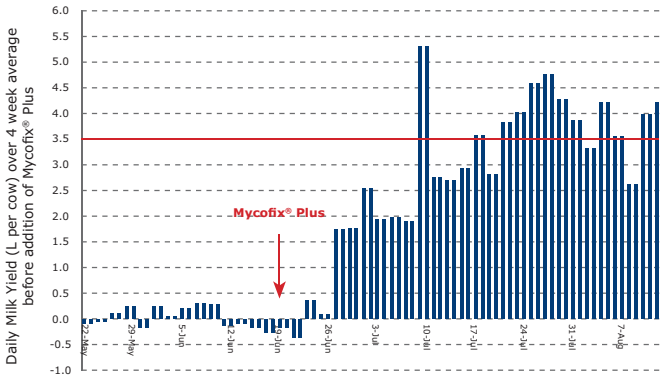

Figure1. *Effects of Mycofix® Plus on milk production*

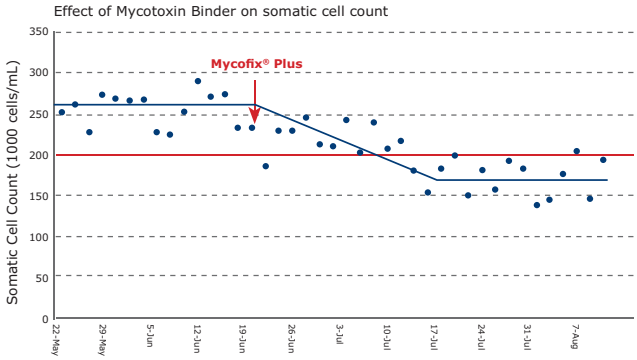

Figure2. *Effects of Mycofix® Plus on Somatic Cell Count*

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Some of the AHV International products the farmers are using. Pictures: Chris McCullough

AHV International co-founders Gertjan Streefland, left, and Jan de Rooy.

New products tackle antibiotic use

Key points

- ✔ New products being developed to fight mastitis without antibiotics
- ✔ Antibiotic resistance growing problem globally
- ✔ Dutch company develops boluses

By **Chris McCullough**

REDUCING the use of antibiotics on livestock farms has become a new goal, particularly in the dairy industry, but many farmers find it difficult to replace them. Internationally new products are emerging to help farmers meet this challenge.

For decades farmers have instinctively used antibiotics to treat livestock for any health issues they may have as this is what they have always been told to do.

However, the tide is changing as governments, supermarkets and other bodies are calling for a complete reduction in the use of antibiotics.

While the determination to do so might be there and alternative products available, it's the mind set of some farmers that is the stumbling block.

Mastitis continues to be one of the most persistent diseases to challenge dairy industries across the world from a health and welfare perspective to the cow and an economic impact to the dairy farmer.

However, new science has produced alternatives to antibiotics that can completely clean out a cow's udder that is infected with mastitis and other bacterial infections.

Started just five years ago Dutch company AHV International is growing fast and is using its expertise to develop a number of products that are providing welcome results on farms.

AHV International co-founder and veterinarian Gertjan Streefland said: "Antimicrobial resistance is not a new phenomenon. The plant kingdom has been dealing with this issue almost since the beginning of time. Fortunately, modern scientific research has succeeded in identifying how nature has successfully dealt with this problem.

"AHV was established to convert this science into practical solutions for livestock farmers, who have to deal with the disease-related impact of bacterial infection on a regular basis.

"What we now know is that bacteria must gather together in groups in order to co-ordinate an action and have an impact on the host animal. To make this happen they must communicate with each other through a process called 'quorum sensing'. In essence, individual bacteria emit signal molecules so as to make this grouping process come about.

"In response, AHV New Pharma solutions have been developed to disrupt this communication process, thereby abolishing the impact that pathogenic bacteria could have when entering a host animal.

"We also know that attacking bacteria produce a biofilm around their

'The challenge of antimicrobial resistance is now a key priority for health professionals, veterinarians and the public at large, given the recent emergence of pathogens that are now resistant to almost every antibiotic that is currently available.'

cells, which acts to prevent attacks by antibiotics and the animal's own immune cells. The AHV New Pharma solutions range also acts to break down these biofilms and supports the cow's natural immune system.

"And, because of this combined activity, invading pathogenic bacteria are more predisposed to attack by the host's immune system. The end result is a process which directly impacts on the ability of pathogenic bacteria to cause disease without a reliance on antibiotics."

Udder infections costs dairy farmers billions of dollars per year in lost milk sales and increased veterinary expenses. In the past it has been the norm for farmers to treat all four quarters of a dairy cow that was detected with mastitis, which was increasing the use of antibiotics and costing the farmer more.

AHV International is based in Zwolle in the Netherlands and has developed a number of products including boluses for mastitis and a powder mix for giving calves a good start in life.

"The company's track record in the Netherlands and a host of other countries around the world confirms the efficacy of the AHV New Pharma approach and its product range," Dr Streefland said.

"Farmers are fully aware of the need to reduce their reliance on antibiotics. The challenge of anti-microbial resistance is now a key priority for health professionals, veterinarians and the public at large, given the recent emergence of pathogens that are now resistant to almost every antibiotic that is currently available."

Farmers' experience

Siem de Boer runs 300 cows in partnership with his brother Jan on their farm near Edam, about 50 kilometres from Amsterdam.

Just two years ago Siem was having big trouble with cryptosporidium in his herd as well as mastitis meaning his vet bill was growing.

"We were having a lot of cases of mastitis in the herd as well as crypto, which left us with unhealthy calves and loss of milk sales," he said. "Our vet bills were spiralling and I wanted to reduce our use of antibiotics.

"After a chance meeting with Gertjan I decided to use the AHV Cow Extra boluses to tackle mastitis, which worked a treat and had no withdrawal period for the milk.

"A farmer has to have patience when using these products and he has to understand how they work. It's too easy just to stick a tube of antibiotics into the udder but the substance only penetrates the lower section of the quarter.

Siem de Boer prepares the milk for his calves on the farm at Edam.

Kevin Lubbersen, left, with his dad Wim on their farm at Holten in The Netherlands.

Milking time for the cows on the Lubbersen farm in The Netherlands.

"The bolus helps all parts of the quarter and really does get rid of the mastitis. I give around 30 per cent of my cows a bolus these days which really helps.

"All the calves are fed nine litres of milk per day for two weeks and I now mix AHV's Calfstart into the mix, which has cleared up the crypto.

"It is real easy to see the difference in the calves as they are shining and thriving very well.

"Currently, I have manged to reduce my use of antibiotics to around 20pc of the herd."

Wim Lubbersen farms with his twin sons Kevin and Twan at Holten in the Netherlands milking 190 cows.

They have successfully managed to reduce the antibiotic use in the milking cows down to zero in just three months after using the cow boluses to reduce the somatic cell count.

"We use the boluses on cows with high cell counts," Wim said. "And we use the Calf Start mixed in the milk for the young calves.

"Our cows are milked by three Lely robots, which can detect any abnormalities in the cow's health including any high somatic cell counts.

"Since starting to use the products we noticed very quickly a reduction in the number of cases of mastitis.

"Our herd average yield is around 11,000 kilograms in 305 days with the cell count currently running at 100,000."

AHV International is currently developing a product that will dry cows off in just one day and this will be introduced soon.

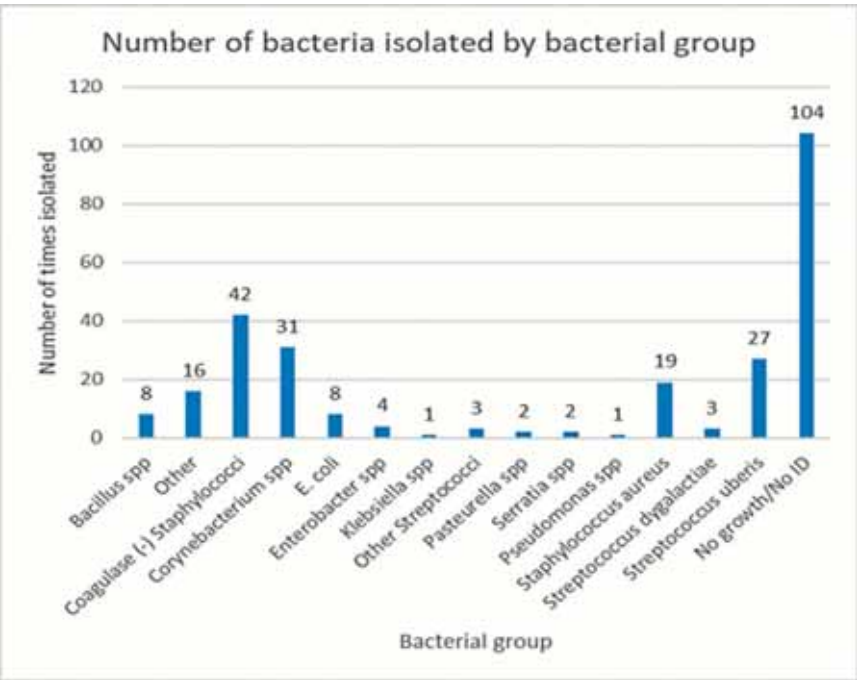
The company also says its cow boluses would treat other problems such as mycoplasma bovis in dairy cows which has caused many cows in New Zealand to be culled. D

Identifying mastitis bugs vital

Key points

- ✔ Understanding bacteria causing mastitis helps with treatment
- ✔ WA researchers working on farms uncover interesting results
- ✔ Identified different most common bacteria to previous studies

By **Teanna Cahill***



MASTITIS is one of the biggest concerns for milk producers; and the most expensive — it costs farmers $200 per cow, per year; which totals over $130 million in losses to the industry annually.

Once the costs of treatment, loss of milk and increased farm labour are considered, it all adds up to a substantial amount. On top of that, there are also issues that are difficult to put a dollar value on — such as animal welfare and consumer awareness.

Consumers are more conscious of how food products are made, becoming increasingly aware of the environmental impact of food production and how medicines are being used in the food they eat. By better understanding the causes and treatments of mastitis, producers are in a better position to meet consumer needs and maintain market share.

The European Union is applying pressure to the dairy industry globally to regulate antibiotic usage. In order for Australia to begin developing guidelines for our producers, we first need to understand how we use antibiotics in our milking herds.

Resistance of mastitis-causing bacteria is becoming a greater problem for milk producers. Increasing levels of antibiotic resistance means that it takes longer to treat a cow, more courses of antibiotics are needed, the cow spends more time off the vat, and recovery is slower. Farmers may see this when they have to re-treat cows multiple times and they don't seem to recover from the infection.

Understanding what bacteria is causing the infection allows producers to choose the most appropriate antibiotic, allowing targeted and more effective treatment. Targeted treatment improves animal welfare, reduces treatment costs and reduces time milk gets diverted from the vat, leading to increased income for producers.

Researchers and students from Murdoch University, supported by Western Dairy, have begun investigating what bacteria cause mastitis on Western Australian dairy farms by sampling, culturing and identifying bacteria using state-of-the-art technology.

'Resistance of mastitis-causing bacteria is becoming a greater problem for milk producers.'

A study performed in the Macalister region in Victoria demonstrated that the types of bacteria that grow on farms can vary greatly, not only from farm-to-farm, but also between regions. This means that nation-wide studies identifying bacterial types and levels of resistance will have to be performed to gain a clear picture of where the Australian dairy industry currently stands.

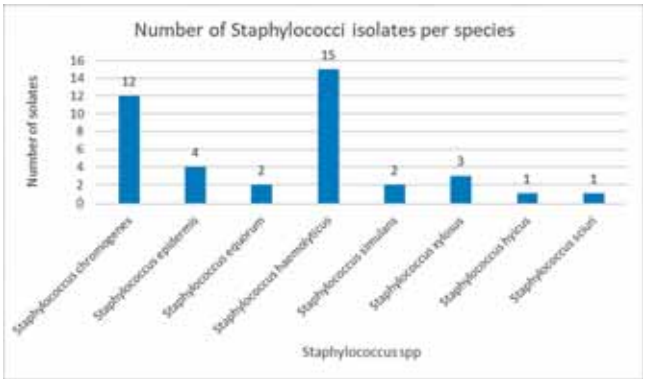
A total of 266 samples from 10 farms in south-west WA have been tested and bacterial identification performed using the MALDI-TOF at Murdoch's premiere Antimicrobial Resistance Laboratory.

Farmers volunteered to participate in the study, which involved collecting some demographic data and information on mastitis management. Veterinary researchers and students then visited the farm during milking to collect milk samples from consistently high somatic cell count cows.

Findings so far show that the most commonly identified group of bacteria are an opportunistic bacteria known as Coagulase Negative *Staphylococci*, or CNS. The most commonly isolated bacteria are *Staphylococcus haemolyticus*. This is a significant finding because studies have shown *S. haemolyticus* to be an important pathogen in human hospitals and commonly carries high levels of antimicrobial resistance.

Staphylococcus chromogenes was the second most common CNS bacteria to be cultured. *S. chromogenes* is interesting because it has been shown to be 'host-adapted' — meaning its specialised for survival in the udder and on the cow. Interestingly, there has been no publications yet indicating it has been identified in Australia herds.

These bacteria have been shown to colonise the udder and can live within the mammary tissue for long periods of time without causing disease until the conditions are right. This can be after the cow has calved (lowered immune system), during times of heat



Teanna Cahill at the Australian Dairy Conference with a poster explaining her research.

stress (summer) and poorer quality diet (just before the break of season).

The second most common group of bacteria identified was infectious bacteria such as *Staphylococcus aureus* and *Corynebacterium bovis*. Contagious mastitic infections can be managed through milking management factors such as changing gloves between cows, milking infected cows on a separate cluster, and washing clusters between cows.

Previous studies performed in Australia have shown that *S. aureus* was the most common bacteria causing mastitis. However, the study shows that CNS are the most common bacteria causing mastitis.

As a producer, this information is important because it shows that management factors such as washing clusters between cows, wearing gloves and milking infected cows last has significantly impacted the amount of contagious mastitis in WA herds. It also means that producers may have to begin using alternative methods to control opportunistic pathogens, such as reducing heat stress and managing transition cows more effectively.

Further research is being performed by researchers at Murdoch University, with funding, support and collaboration with Western Dairy, to determine the levels of resistance among the bacteria found on WA dairy farms. D

**Teanna Cahill prepared this article as part of her entry into the 2019 Young Dairy Scientists competition run as part of the Australian Dairy Conference.*

High-quality milk focus for Queensland farmers

SECOND-GENERATION Subtropical dairy farmers Dallas, Adrian, Glen, and Melvyn Zischke weathered a tough season with high input costs by focusing on producing high quality milk.

The Darling Downs farmers were announced as a 2019 winner of Dairy Australia's Milk Quality Awards, placing them within the top 100 farmers nationwide for milk quality, and the number one farm for milk quality in Queensland.

It is the 13th successive win for the dryland farmers, who operate near Toowoomba in Queensland's south-east.

After taking over the family farm in 2005, the brothers continued to milk their 120-cow herd. "We've been in dairy farming all our lives, and we're very proud to be Milk Quality Award winners for the 13th year in a row," Dallas said.

"We always try to maintain high milk quality, for the sake of getting all our bonuses and keeping up our profitability."

With no irrigation system in place, a volatile climate and high hay and grain costs have put pressure on the Zischkes' farming system and placed even greater importance on milk quality.

As a supplier of Norco, the Zischkes' milk quality sees them earn a premium of up to 11 cents per litre on top of their base milk price, allowing them to stay on top of high input costs. "The premiums we get from high milk quality have a big impact on our bottom line," Dallas said.

Brothers Dallas, Adrian, Glen and Melvyn Zischke stay across best practice for mastitis prevention, including using Dairy Australia's Countdown resources.

The Zischkes have always relied heavily on home-grown fodder to feed their herd, but tough weather conditions last season presented a major challenge.

"We're usually very self-sufficient and grow our own hay, but the weather hasn't been in our favour," Dallas said. "We bought in hay last year at over $500 per tonne, which was very expensive."

For the Zischkes, the secret to maintaining their milk quality and profitability came down to sound management and effective herd monitoring.

"It's all about management," Dallas said. "We do monthly herd recording, which lets us keep track of cows with high bulk milk cell counts and make informed decisions."

As well as actively tracking the BMCC of each cow, the Zischkes stay across best practice for mastitis prevention, including by using Dairy Australia's Countdown resources.

"We teat spray every time, and we always have," said Dallas. "At drying off, we treat every cow with a dry cow treatment to prevent mastitis. Every day, you have to stick to it — it's about consistency."

Table 1. Effect of selenium source on plasma and colostrum selenium in pregnant heifers and on plasma selenium of calves

	Treatment			Standard error of the mean	P (probability) value
	NC	SS	SO		
Heifers					
Plasma Se (µg/ml)					
Enrolment	61.6	61.2	64.3	1.78	0.576
End of wash out period	50.2	52.4	54.9	1.78	0.896
Two weeks pre-calving	45.3	61.7	69.9	2.23	< 0.001
Calving	38.9	58.1	67.4	1.78	< 0.001
Colostrum Se (µg/ml)	53.2	73.0	92.4	4.58	< 0.001
Calves					
Calf Plasma Se (µg/ml)	31.2	39.2	44.8	1.45	< 0.001

NC = non-Se-fortified diet; SS = sodium selenite diet; SO = hydroxy-selenomethionine diet

Organic selenium more effective

Key points

- ✔ Selenium essential trace element for livestock health
- ✔ Study shows organic form better than mineral form in pre-calving diets
- ✔ Lifted selenium levels in calves

A STUDY by researchers at the University of Reading and nutrition company Adisseo has shown dietary selenium supplementation of cows before calving can enhance their and their calves' selenium status. The study also showed organic forms of selenium were more effective than inorganic forms.

Results of the research were presented at the 2018 Australasian Dairy Science Symposium.

Selenium is an essential trace element in livestock for antioxidant, immune and reproductive functions. Selenium deficiency can impair reproduction, development and production of dairy cows due to uncontrolled oxidative stress.

There is a positive correlation between the selenium status of a cow at calving and its offspring. Previous research has shown that the selenium status of calves born from cows fed on diets supplemented with selenium during late gestation is better maintained in the early post-calving period than that of calves receiving injectable sources of selenium.

The researchers said this had meant that dietary selenium supplementation was practised widely, either in an inorganic form of selenium such as sodium selenite or in an organic form such as selenium yeasts. Previous research in Belgian Blue beef cows had shown organic forms of selenium fed in late gestation further improved the selenium status of calves compared with mineral forms of selenium.

'The study show heifers receiving the organic form of selenium had higher levels of selenium in their blood plasma and colostrum than those receiving the inorganic form.'

This latest research looked at a new molecule, hydroxy-selenomethionine, which has been introduced as a pure form of organic selenium supplement. The study aimed at comparing its efficacy with that of selenite when offered to heifers during late gestation.The results showed that dietary supplementation with selenium to the heifers significantly increased selenium levels in their blood plasma, both just before and after calving.

It also lifted the selenium levels in the cows' colostrum and in their calves' blood plasma.

The study show heifers receiving the organic form of selenium had higher levels of selenium in their blood plasma and colostrum than those receiving the inorganic form.

This is attributable to the better bioavailability of organic selenium and the incorporation of selenomethionine, which is one of the amino acids called containing the selenium in the organic form.

The blood plasma levels were also higher in the calves of the cows receiving the organic form. This was attributed to the more efficient transfer of selenomethionine through the placenta.

The study used 42 in-calf Holstein-Friesian heifers that were randomly assigned to three groups: one receiving a diet with no selenium, one receive a diet with 0.3 milligrams per kilogram of dry matter of mineral selenium as selenite and one received 0.3mg/kg DM of organic selenium as hydroxy-selenomethionine.

All heifers were fed a diet with no supplementation for a seven-week washout phase, followed by an eight-week supplemental phase.

Blood samples were taken from each animal at the start of the study, at the end of the wash-out phase, two-weeks pre-calving and immediately after calving.

Blood samples were also taken from new-born calves. Colostrum was also taken as close to calving as possible.

The study *Hydroxy-selenomethionine is an Effective Selenium Source for Pregnant Heifers* was undertaken by D. T. Juniper, C. Rymer from the School of Agriculture, Policy and Development at the University of Reading, Reading, M. Briens and M. De Marco from Adisseo France and Y. G. Liu from Adisseo Asia Pacific.

Winning the war on mastitis

Key points

- ✔ Careful attention to detail
- ✔ Treatment procedure for cows with mastitis
- ✔ Gentle handling, particularly of heifers

By **Marian Macdonald**

Stuart and Jenny Bland are careful cow custodians who consider mastitis and cow comfort right throughout the day and at every stage of the farming calendar, from calving through to drying off again.

WHEN Jenny Bland was nine years old, her grandfather shook her awake and said, "Come on, your mum's had a baby girl, so you're going to have to milk." By the time she was 16, Mrs Bland found herself in the dairy before and after school every night.

She knows her cows and, while husband Stuart is no slouch in the dairy himself, the couple nominates Mrs Bland as the "cow person" of the two. It is the second year in a row that the Blands have won Dairy Australia's gold milk quality award, which goes to farms in the top 100 for bulk milk cell count results.

The tight-knit pair have been milking cows together for 36 years and quality is woven into their daily routines as well as their big decisions. "The text from Burra comes through at 3pm, and the first thing I look at is components, then the cell count," Mrs Bland said. If there was a spike, they look for an explanation.

Steps include checking the inline filters and the cows. "If I see a cow that's a bit fidgety or looks or feels a little bit different, I'm onto it straight away," Mrs Bland said.

Bi-monthly herd tests also help to weed out any subclinical "millionaires".

When a suspect cow is identified, the pair use the detergent test to confirm an infection.

"Most respond to antibiotics fairly well, so if there's no response in 24 to 48 hours, I change to another drug," Mrs Bland said.

The milk from antibiotic-treated cows is discarded rather than fed to calves in a bid to avoid resistance. "The calves don't go for milk like that in the paddocks, either," Mrs Bland said.

Any cow, with the odd exception for pets, that does not respond to treatment or has more than one infection in a season is sold. "If she responds, her card is marked if she gets mastitis again down the track," Mr Bland said.

Perhaps even more important than treatment is preventative care.

Milking machines and rubberware are regularly maintained to prevent mechanical damage and cross infection.

Cow husbandry is vital, too. "There's no stress, we're quiet around the yard," Mrs Bland said.

Sheltered paddocks are chosen in hot or cold conditions and fresh heifers given a gentle introduction to the milking routine. "I make a point of handling heifers when they come in and massage them with the minty cream," Mrs Bland said.

If the cows come in dirty, they're washed and then dried with an iodine-soaked cloth and Mrs Bland describes herself as the "phantom trail trimmer".

Although the Blands do not teat-seal, they blanket treat the herd with a 35-day dry-cow antibiotic.

When they calve, cows are kept in a transition paddock for five days so they can be carefully assessed and eased into the milker diet. The diet includes a special mix of apple cider, vinegar, garlic and diluted molasses, which Mr Bland described as being like a "natural drench".

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Nick Leppin checks the cow collar correlates to the information on the integrated software program. Picture: Toby Leppin

Auto heat detection delivers benefits

Key points

- ✔ Invested in heat detection collars four years ago
- ✔ No longer use bulls in herd
- ✔ Help with tight seasonal calving

By **Jeanette Severs**

AFTER four years of using automatic heat detection for the herd, Toby Leppin does not miss the manual system.

Toby, Lyn, Nick and Sarah Leppin milk an Aussie Red herd on a dryland, hilly dairy farm at Bena, Victoria. The self-replacing 370-head milking herd is single-season calving from July 14 for up to 10 weeks to take advantage of spring growth. Average annual production in the past half dozen seasons has been 450 kilograms milk solids per cow.

The 147-hectare milking area is managed at a 2.6 head stocking rate, while fodder is harvested on the 170ha turnout area and brought to the farm to be fed out.

In 2003, Toby and Lyn replaced the 16-double-up herringbone with a 50-bay rotary dairy and installed automatic everything — feeders, identification, drafting, teat spray, retention bars, cup removers, all integrated.

"It means you can milk with one person," Toby said.

Along with Toby and Nick on the farm, there is a full-time and a part-time milker. Toby is a qualified artificial insemination technician and Nick is learning the skill.

Four years ago, they started using automatic heat detection, with collars on the cows. Mr Leppin said the upfront cost was $60,000 for installing the 400-collar system, with an ongoing annual cost of $1200 for replacement batteries.

"We hope to get eight years out of the collars," he said.

"The batteries don't cost more than scratchies and tail

paint each year. But the actual capital outlay is not much different to buying eight bulls each year," he said.

He estimated the replacement cost for collars would be close to $100,000.

"It's worth it because you get so much information about the cow from the automatic system," he said.

"It really highlights the different cycles and heat periods each cow has."

As the cow comes in to the dairy for milking, it is drafted through and the computer program updates it details, raising an alert if it is showing a spike in temperature.

"What we have on the system is so much information about the cow, the historical data about her different cycles and heat periods," Toby said.

"It's a really helpful system for identifying and analysing quickly, using hourly and daily graphs, what that cow does over a 21-day rotation. It's really quick and obvious to see.

"We might have a cow that barely breaks the line, but if you look at last year's data, you can differentiate between what's really heat and what might be a temperature spike for other reasons. That gives you confidence of the heat activity of each cow.

"Within 10 seconds, you've made a decision, yes, she's on heat; and she's going to be joined. You don't get that confidence with scratchies and paint."

Toby Leppin discusses the new heat detection collars and upgraded software program, with Gerard Brislin, sales representative for Genetics Australia at the 2019 South Gippsland Dairy Expo. The Leppin herd currently use Dairymaster Moomonitors second-generation collars. Photo by Jeanette Severs.

The system also sounds an alert if the drafting scan identifies the battery needs changing.

"The collars on our cows do need the battery changed." Toby said.

"So you have to monitor through the system that the battery is going flat. But because you can get an alert as the cow drafts onto the milking platform, it's all dealt with there."

'It's worth it because you get so much information about the cow from the automatic system.'

There were a number of positives that naturally fell out of this investment decision.

"You eliminate bulls off the property," Toby said.

"Bulls aren't as fertile as people think — a slight increase in temperature and their semen condition drops. They cost a lot of money to buy and a lot to keep.

"Having eight bulls standing around for 11 months for four weeks' work is similar to someone sitting on a couch for 11 months and wanting to run a marathon without preparation."

Fertility remained the same without bulls and using the collars.

"Our reproduction rate is still 13

per cent empty," Toby said. "We only keep young cows who are milking well, if they are empty."

The herd management system, set up by Nick Leppin, complements the automatic heat detection system.

"When a cow calves, for 44 days she's highlighted white on the computer program; for 42 days she's highlighted green; once she is joined, she's highlighted blue for 21 days.

"We wait to see if she comes back onto heat; if she doesn't, she's highlighted yellow.

"As you're milking, you can look up and check a cow; and that gives you a quick alert visually that she might not have cycled in 90 days."

Genetic selection has remained the same, with a focus on using quality bulls with the necessary breeding values preferenced by the Leppin dairy business partnership.

"We focus on fertility and udder strength," Toby said.

"It's necessary to build udder conformation and strength in the Aussie Red breed."

Joining and calving are the only intense periods on the farm, which leads to better workforce management and utilisation.

Nick Leppin checks one of the cows that has been drafted using information from the activity collar. Picture: Toby Leppin

"Joining and calving melds, so in the morning for a few weeks during the year, we have two people on milking. It's the intersection," Toby said.

"I'll get an alert or a call and know the system has identified one or more cows are in heat and they're drafted after milking and waiting for me. There's been a few times this year when we've been busy doing silage and the heat detection is done at milking. It's very efficient.

"Once you've done those six weeks of AI, you feel a sense of relief." D

Robots key part of succession plan

Key points

- ✔ Five robots installed as part of farm upgrade
- ✔ Attracted son to return to farm
- ✔ Enabled herd to grow

By **Jeanette Severs**

TEN years ago, Tasmanian dairy farmer, Denise Suna, worried about the day she could no longer physically milk her herd of 180 Holstein-Jersey, Jersey and two-way cross-bred Jersey-Holstein cows.

"I was starting to have a lot of trouble from my hands, I was struggling to put cups on and my arms and shoulders ached at night," she said.

"I could see a day where I just couldn't milk the cows any more. We also knew we needed a new dairy."

Despite her deep affection for her cows, Denise wondered if it was time to start considering another way to make a living.

Alongside that decision, Denise and husband, Cameron, were facing a lack of succession onto the farm. None of their children wanted to milk cows in the 13-a-side double-up herringbone dairy, built in 1978.

On top of these considerations were the low milk price and, as a Fonterra supplier in Tasmania, additional business pressures.

On a family holiday to Europe, Cameron and Denise toured several automatic milking system farms in Holland. They visited New Zealand farms to understand how AMS worked in a pasture-grazing system.

"We also went to see a robot system at Western Creek (Tasmania) and we were impressed with how the cows used the system and were relaxed," Denise said.

'Dayne wasn't interested in milking cows through the herringbone system, but is very interested in the technology and mechanics of the robot system.'

"That's when we got really serious about changing to a robot system."

It required some considerable change to infrastructure and a significant financial investment: $1.2 million. A bonus was their son expressing an interest in working on the farm, attracted by the technology of the AMS.

"We wanted to build the robot dairy where the herringbone was because we wanted to still use that concrete platform. At one stage, we had one side of the herringbone working and four robots working," Denise said.

The farm has a quarry and, using their own machinery, all the earthworks, concreting and cladding could be done by Cameron and their son, Dayne.

"We built a platform for each robot and we had to physically dig out a pit next to each robot so we can go down and look at each cow's udder from underneath," Denise said.

The old shed was 12 square metres; the new shed is 25m^2. An underpass was built, at a cost of $120,000 for materials. Again, they used the farm quarry and their own earthmoving machinery.

The remaining herringbone system was taken out and the drafting yard was installed to enable the cows to go through the robots. The automatic drafting system scans the cow's National Livestock Indentification Scheme eartag and, if the animal needs husbandry or veterinary care, it is funnelled to pens or a waiting paddock next to the dairy.

"It means the cows are drafted into pens if they need AI or treatment," Denise said.

"If any one is lame, they are drafted to a paddock near the dairy, where they have pasture to graze and they don't have to walk."

The Suna family graze their herd on hilly countryside near the village of Wilmot in Tasmania. The geographic isolation means labour is limited. As well as Dayne working on the farm alongside Denise and Cameron, their daughter, Courtney, is available for tasks outside her own employment and family responsibilities.

Dayne works alongside Cameron, managing pasture and fodder and repairing machinery. He shares, with Denise, responsibility for cow health and production.

"Dayne wasn't interested in milking cows through the herringbone system, but is very interested in the technology and mechanics of the robot system," Denise said.

"Dayne is very good with the cows too, which I really love."

The Suna farm lies across four properties in the Wilmot district — Brooklands, Bonness, Ormidale and The Valley — located both sides of a country road that is busy with logging trucks and farm traffic. The land is steep on both sides and the farm doesn't initially

Dayne Suna was attracted back to the family farm when robots were installed in place of an old herringbone dairy.

look like a place where cows might voluntarily walk themselves from far pasture into the shed for milking.

Brooklands is the home farm, where the dairy is located and carries the paddocks where the herd camps overnight. Bonness is the second farm, joined by the underpass. The milking herd walks through the underpass to graze on this farm during the day.

A three-way grazing system was installed, utilising the existing extra-wide laneways.

"We built a three-way grazing system across Brooklands and Bonness and we were able to put a single wire up the middle of each laneway to create an efficient system for grazing," Denise said.

Brooklands was bought by Cameron's parents when he was 16 and said he wanted to be a dairy farmer.

Ormidale and The Valley are runoff blocks, to grow out replacement heifers and dairy-beef-cross calves. It's also the country where they grow dryland and irrigated pastures and crops to make silage and hay.

Ormidale was Denise's parents' dairy farm. The total farm area is 250 hectares and the milking platform is 110ha.

"If there's surplus pasture on Brooklands and Bonness, that also gets cut as silage," Denise said. They normally harvest 400 round bales of hay, 500 round bales of silage and 500 small square bales. There is 6ha of rape grown on dryland country and 48ha of pasture and 6ha of rape are irrigated.

The herd size was 180 cows when they were milked using the herringbone. To ensure a return on investment from changing to a robot system, Denise and Cameron made a long-term plan to grow the herd to 350 cows, milking with five DeLaval VMS stall robots. Four years after the four robots went in, the fifth has just been added as planned and the couple will have a herd size of 300 in

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◀ 2020 and, plans going well, increase to 350 cows in 2021.

Production has grown, from 320kg milk solids per cow using the herringbone to 400kg MS/cow in the robot system.

The herd numbers have increased naturally, by keeping every cow and dairy heifer. This year, 90 heifers will come into the herd from August 1.

"We kept cows we not necessarily should have kept, but have," Denise said.

"Next spring, we'll have the heifers to replace those cows we want to sell.

"Some of the cows haven't got brilliant teat placement, so I have to help the robot system attach so she can be milked.

"If the robot is having trouble attaching, you can put the cow's milking time out by about an hour, so her udder is more plump and the teats are pushed apart a bit more. It's a huge learning curve.

"I still spend time with the cows. I still think like a conventional farmer.

"I still go along the laneway and look at the cows. I can identify if someone is lame, or might have mastitis, or isn't milked out properly. I could spend all day wandering among the cows if I had time."

These are issues that can be sorted when the cow comes into the shed for milking. "I couldn't turn a computer on when we built the robotic dairy, but my son is very good and I can now do what I need to do on the computer," Denise said. "I can put a track on a cow and when she comes into the dairy, she is scanned and the system sends a message to my phone and I can check on her in the dairy shed."

Denise, Dayne and Cameron Suna have grown their dairy herd after installing robots four years ago.

Decisions are now made using data generated by the robots, allowing for greater precision and accuracy in overall farm management.

The information captured by both the robots and a DeLaval Cell Counter allow Dayne to make cow health decisions often before animals are showing any symptoms of disease. There has been a drop in mastitis rates and the farm has been recognised with several milk quality awards.

The change in the cows' behaviour has been marked and the family has particularly noted how much calmer the animals are in the shed. "Since we've put the robots in, we've noticed how incredibly clever the cows are," Denise said. "I knew they were clever but you don't see it as much in a conventional system."

Robotic industry program Milking Edge project leader Dr Nicolas Lyons said there were currently 45 automated milking systems operating in dairy farms across every dairy region in Australia, with another two farms in the process of converting from conventional to robotic milking.

The project is a collaborative industry initiative involving Dairy Australia, NSW Department of Primary Industries and DeLaval. The team is building tools and resources to support industry participants to consider, invest and operate automatic milking systems successfully, as an important part of growing a healthy future for the dairy sector in Australia. It builds on a decade of successful research and development led by FutureDairy and the experience of multiple commercial farms across the country to introduce proven technology to the industry. D

January 19-23 Tatura, Vic	**International Dairy Week** Contact: Robyn Barber Email: <info@internationaldairyweek.com.au> Website: <www.internationaldairyweek.com.au>
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September 22-24 Sydney, NSW	**24th ICID International Congress on Irrigation and Drainage & Irrigation Australia National Conference & Exhibition, 2020, and 71st International Executive Council Meeting** Website: <www.irrigationaustralia.com.au>
November 8-12 Paris, France	**SIMA and Simagena 2020** Website: <http://en.simaonline.com/>

DAIRYSA conference to explore bold ideas

THIS years DairySA Central Conference will provide a platform for dairy farmers to think 'outside the square' and be open to fresh ways of addressing pertinent issues in the dairy industry, according to Mt Compass dairy farmer and organising committee member Perrin Hicks.

"I believe dairy farmers are progressive in their thinking, and are keen to hear about the latest developments within their industry," Mr Hicks said.

"It is through conferences like this that give us the opportunity to flesh out new ideas, seek inspiration and be open to some 'blue sky' thinking across a range of topics."

In 2020, the DairySA Conference is embracing 'Bold Ideas' — it will explore new directions in chromosomal mating and dairy beef, plunge into social licence conversations on replacement calves, delve into ways of driving positive dairy culture, revisit proven 'best practice' in silage, and showcase success stories from dairy businesses 'doing it differently'.

Up to 150 dairy farmers and service providers from across SA's Fleurieu, Barossa Mid-North, and River and Lakes regions — and even from the South East — are expected to attend the popular one day conference, to be held at Chateau Tanunda, Barossa Valley on Thursday, March 5.

"This years conference will have an abundance of insightful speakers who will delve deeper into some of the current issues that we hear about, but don't always have the time to unpack to see how they can drive our business more profitably," Mr Hicks said.

The DairySA Central Conference offers the opportunity for farmers to hear new ideas as well as network with other farmers, service providers and industry members.

"I'm particularly excited to hear about potential efficiencies in chromosomal mating with groundbreaking technologies in the sex semen area being developed by US-based ST Technologies."

Warren Davies from 'The Unbreakable Farmer' will also feature in the program, providing an authentic, inspiring and sometimes confronting presentation filled with take-home strategies developed from his business and life journey around the key themes of resilience, persistence and determination.

The 'Gather and Graze' post-conference event — where delegates discuss the day's events with a light graze and drinks — will be followed by the popular conference dinner. This year's dinner will be a laid back affair — it's a chance to relax, enjoy the company of others, have fun and unwind with light-hearted entertainment promising plenty of laughs.

"During the conference breaks there are also plenty of opportunities to network with other farmers, service providers and industry members, which is a highly valued element to the day," Mr Hicks said.

For more information contact DairySA's Beck Burgess, phone 0438 262 966. Registrations are now open through Eventbrite at <https://2020dsacc.eventbrite.com.au/>.

Genomic testing — how does it work?

By **Ee Cheng Ooi***

Key points
- ✔ Use of genomic testing increasing
- ✔ Helps identify animals with potentially better performance
- ✔ Better than using parent average

Genomic testing allows the earlier identification of high genetic worth animals - opening up options for farmers to manage their herds.

ONE of the joys of writing this column is the opportunity to investigate things that I don't know enough about. Every vet has been put on the spot by a farmer asking some head-scratching baffler — I find the "why does my cow do this strange behaviour?" ones to be the trickiest — and have had to reply, "well, I'm not sure about that one, but let me look it up and get back to you".

As a new graduate, I might have seen this as embarrassing — surely five years of university should have given me all the information I could possibly need for a lifetime of seeing practice? But as an older vet now, wizened by midnight calls and excessive sun exposure, with a small dash of caring less about what people think, I've come to enjoy these questions. Farmers are always curious about new situations or ideas they encounter. They have their own theories to explain the things they see, and they always see things from a different perspective. It provides an interesting challenge.

Recently, the question I've fielded from farmers most commonly has been about genomic testing. The number of companies offering genomic testing services has increased in the past few years, and the cost has decreased. The process is simple — you just pluck some tail hairs, clearly identify your sample, and then send it off to be tested.

The use of genomic testing has been occurring in the Australian dairy industry since 2011, and it is an Australian innovation. Although usage is widespread overseas, the geneticists who developed the tool are still here, working at Agribio. They can be a little bit shy in person, but internationally, they are famous.

The process of genomic testing may be simple but explaining how it works is a challenge. Firstly, DNA is extracted from ear tissue or tail hair samples. DNA makes up the 'genome' or genetic code of an individual. The cattle genome is made up of three billion DNA base pairs, with four different types of bases — A, T, C and G. Everyone has a unique combination of these bases (unless they're an identical twin).

Each genome has large sections where it is the same across individuals of the same species and small sections where it differs. These few points on the genome that differ from animal to animal are known as 'single nucleotide polymorphisms' or SNPs.

To investigate these, the industry has built a reference population of cattle that is representative of the Australian herd, who have had their entire genomes sequenced. This allows us to link each sequence to each animal's 'phenotypic' or real-life performance. We can then compare the sequences to see which SNPs are similar across high performing animals.

Let's say for example that a very high performing bull has an 'A' at a particular SNP. When we look at other good bulls, most of them also have 'As' at the same SNP. This means that if we test a bull of unknown performance who also has an 'A', we have a tiny piece of evidence that he may be a good bull. If another unknown bull has a 'G' at the position, we might be less certain of his worth.

Geneticists have found 50,000 SNPs that correlate to good performance in a variety of traits. This means that each tiny piece of evidence can be used to build a bigger picture about the animal, allowing the construction of genomic Australian Breeding Values. It also means that instead of sequencing the entire genome of each of your tail hair samples, they can quickly and efficiently look at 50,000 SNPs.

This isn't a perfect process. There's still a way to go before we could predict the future with 100 per cent accuracy. The best it can do is give you some information to work with. Genomic testing is much more reliable than the parent average (just look at your own brothers and sisters to see the differences that can occur from the same source), but not as reliable as progeny testing. However, the benefit of genomic testing is that it can be done at a very early age, which can help make a real difference with management decisions.

Farmers have managed to devise lots of interesting strategies for using genomic testing in conjunction with things like sexed semen, beef bulls and good herd fertility in the past few years — stay with me and we'll explore these in the next edition. 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
Solutions for Herd Development

Breeding progress on track in Tasmania

Key points

- ✔ Focus on fertility and high genetic value animals
- ✔ Excellent herd records
- ✔ Genomically testing heifers to help with retention decisions

Mark Kerr will use genomic results to determine which surplus replacements to sell.

ACCURATE record keeping and data collection has always been at the heart of Mark Kerr's operation. But now the dairy farmer from Winnaleah in north-east Tasmania has refocused his business to make the most of this information.

A huge increase in fertility — resulting in a tighter-natural seasonal calving pattern — has just been one of the benefits.

"Since I took over from Dad, we introduced mating programs into the herd, focused on fertility with our breeding and now we have more replacements and we had no inductions this calving season," Mark said.

"It has taken four-five years to get there, but now, when I look at our Genetic Progress Report all the arrows are heading the right way."

Mark tracks the progress of his 445-head herd comprising both Holsteins and Holstein-Jersey crosses against the national average using DataGene's Genetic Progress Report.

Mastitis resistance, protein and milkfat have been his biggest breeding gains, despite a focus on fertility, reflecting how he selects his bulls.

"I sit down with the local AI representative in the lead-up to mating season and go through some bulls, they are predominantly Australian from the *Good Bulls Guide*," he said.

"Fertility is a non-negotiable; bulls have to be between 104-110, and I like them to be ranked as high as possible on the BPI [Balanced Performance Index]."

Mark said the BPI suited his grass-based system, which included fodder crops throughout the summer and four kilograms of grain/cow/day in the bail.

"The BPI covers everything that is important to my business," he said.

The BPI is an economic index, including a blend of productivity, type and health traits — in-line with farmer preferences.

Apart from fertility, Mark has focused on maintaining a medium-frame cow — about 500kg liveweight — with good feet, as one part of the farm requires an eight-kilometre round-trip to the dairy.

The herd's excellent records meant his business was the perfect fit for Ginfo, the dairy industry's national reference database for genetic information. One of the benefits is that participating herds have their first lactation heifers classified and genomic (DNA) tested.

New to Ginfo, Mark is looking forward to having his next crop of replacement heifers tested and then will test the calves.

"Last season I had 60 surplus calves," he said. "The dilemma I had was, 'which 60 do I sell?' I look at the mother of all those calves, go off the herd test. She might be a good cow, but if you have more information on those calves you make better decisions. I'm worried, that I could have been selling calves that could have ended-up being good cows."

After success using sexed semen for mating his maiden heifers, Mark had 220 heifer calves this year and only requires 120. This year's retention decisions will be based on genomics.

Five years into taking over from his farther Darryn, Mark is "looking forward to getting to know the genetics of the herd".

"I herd test, so I have got information on those cows, and herd testing comes in handy for mating, but to know that a certain cows is 'such-and-such' BPI and 'good for this and good for that' will make mating decisions even better," Mark said.

As well as helping with breeding decisions, Mark expects genomics to add long-term value to his business.

"I'd like to think, one day down the track, that I'd have the whole herd genomically tested and if I wanted to retire and sell the herd, I'd like to think my cows would be worth a lot more money," he said.

"Also, if I had excess, I could sell to export or another dairy farmer. If they want to buy 60 heifer calves, they should be worth more with more information.

"I can show them a report which will say 'this cow is this BPI and the bull was this BPI', it has got to make my cattle worth more. I know if I was buying cattle, the more information the better. Into the future, selling to export, there might be a premium for calves that are genetically tested."

As a fourth-generation dairy farmer, Mark said his father — the third generation — had been surprised by the technological advances in the industry.

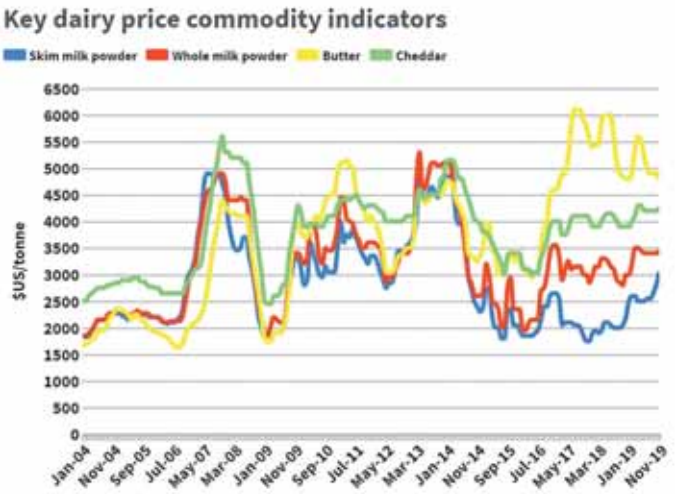
"He said, 'whoever thought you could DNA test a calf? I didn't ever think we'd be able too."

Mixed bag for farmers across Australia

By **Sofia Omstedt**
Industry analyst
Dairy Australia

Key points

- ✔ Operating conditions mixed across the country
- ✔ Hay, grain prices eased from last year
- ✔ Fodder prices remain elevated compared with long-term averages
- ✔ Global markets well balanced



WHILE the end of a year normally signifies a busy time for the industry, it has been amplified by considerable external pressure to implement changes.

Whether through political debate, government inquiry, proposed policy change, and relevant media coverage, the industry is under significant scrutiny.

At the same time, Dairy Australia's recently released *Situation and Outlook* report reflects that operating conditions for dairy farms are mixed across the country. Farmers in part of southern Australia are experiencing a highly favourable season with plentiful pasture growth and many have been able to capitalise on a strong farmgate milk price. In comparison, those further north continue to face ongoing challenges.

A clear north-south divide has emerged in purchased feed availability this season. Feed prices have eased slightly compared with last year, however, remain historically high. An unfavourable finish to spring has seen large areas of grain crop written off or cut for hay through Queensland, NSW and northern Victoria. Northern Australia will therefore rely on the south for feed this year, which will maintain pressure on prices. In Western Australia feed prospects have diminished due to dry conditions and severe frosts.

In comparison, southern Australia is faring much better, with southern South Australia and Victoria emerging as key states for feed production. Many farmers acted early this year to grow and secure feed following last year's shortage, which has seen fodder availability improve.

Notwithstanding the year-on-year improvements in southern feed markets, challenges on-farm in some regions have not eased. Driven by the ongoing high cost of feed and water, milk production continues to contract in northern Victoria and east Gippsland. In NSW and Queensland, the severity of the drought is keeping expenses elevated and milk production suppressed. In WA higher fodder costs, in combination with steady-to-slightly lower milk prices, have compressed margins and are weighing on production.

Conditions are more favourable in most of south-west Victoria, south-east South Australia and parts of Gippsland, as rain boosted pasture growth and resulted in milk production increases in Gippsland. At the same time, farm exits have reduced milk production in south-west Victoria and South Australia.

Further south, reasonable conditions are keeping production steady in Tasmania, however, reduced rainfall in spring caused some concerns.

Despite promising conditions in southern Australia, ongoing challenges further north have seen the national herd shrink further, which will continue to impact milk production.

Dairy Australia has reaffirmed its full season production forecast, estimating milk production will decrease 3-5 per cent to 8.3-8.5 billion litres in 2019-20.

While the Australian dairy industry faces challenges, global markets remain well balanced and supportive of steady-to-higher commodity prices, especially for powders. A relatively weak Australian dollar is also boosting Australia's competitiveness in export markets and allowing exporters to capitalise on higher prices.

Trade disturbances, supply growth and the possibility of a global economic downturn still pose risks to the current balance.

While tempered by well-balanced global markets, current challenges are dominating the short-term outlook for Australian dairy.

High costs of production continue to affect profitability, despite the strong farmgate milk price, and milk production will likely decline further. For some farmers, expensive feed will be a nuisance in an otherwise good year; for others it will represent an ongoing burden as they wait for the drought to break.

As political and policy processes play out for the industry and the global commodity cycle slowly begins to turn, dairy farmers will continue to seek relief from the ongoing high cost and shortage of feed on-farm. D

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